IEI Technology Corp.



MODEL:

uIBX-210-CV-N2600 Series

Fanless Embedded System with Intel® Atom™ N2600 DC 1.6GHz, Intel® NM10 chipset, Pre-installed 2GB DDR3 memory, VGA, HDMI, GbE, Four USB 2.0, Three COM and RoHS Compliant

User Manual

Rev. 1.01 – 28 February 2013

Revision

Date	Version	Changes
28 February 2013	1.01	Update Section 2.3: Packing List
27 December 2012	1.00	Initial release

Copyright

COPYRIGHT NOTICE

The information in this document is subject to change without prior notice in order to improve reliability, design and function and does not represent a commitment on the part of the manufacturer.

In no event will the manufacturer be liable for direct, indirect, special, incidental, or consequential damages arising out of the use or inability to use the product or documentation, even if advised of the possibility of such damages.

This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic, or other means in any form without prior written permission of the manufacturer.

TRADEMARKS

All registered trademarks and product names mentioned herein are used for identification purposes only and may be trademarks and/or registered trademarks of their respective owners.

Table of Contents

List of Figures

List of Tables

Chapter

1

Introduction

1.1 Overview



Figure 1-1: uIBX-210-CV-N2600

The uIBX-210-CV-N2600 embedded system is a fanless system with one VGA port and one HDMI port for dual display. It accepts a Intel® N2600 1.6GHz dual-core processor and supports one 204-pin 800 MHz dual-channel DDR3 SDRAM SO-DIMM module up to 2 GB. The uIBX-210-CV-N2600 supports a 2.5" SATA HDD with up to 3 Gb/s data transfer rate. Three serial ports and four external USB 2.0 ports ensure simplified connectivity to a variety of external peripheral devices.

1.2 Model Variations

The model variations of the uIBX-210-CV-N2600 series are listed below.

Models	CPU	Wireless
uIBX-210-CV-N2600/2GB-R10	Intel® Atom™ N2600	N/A
UIBX-210W -CV-N2600/2GB-R10	Intel® Atom™ N2600	2T2R 802.11b/g/n

Table 1-1: Model Variations

1.3 Features

The uIBX-210-CV-N2600 features are listed below:

- Slim and compact embedded system design with Intel® 3rd Gen Atom N2600 dual-core processor , Supports DDR3 memory (System Max. 2GB)
- 12V only single voltage design, supports AT/ATX power mode selection
- Flexible VGA and HDMI with dual-display support
- Support PCIe Mini card slot
- Fully I/O with four USB, one VGA, one HDMI, three COM and audio

1.4 Technical Specifications

The uIBX-210-CV-N2600 technical specifications are listed in **Table 1-2**.

Chassis	
Form Factor	uIBX
Color	Silver
Dimensions	146.6mm x 132mm x 45.2mm
Chassis Construction	Aluminum Alloy, ABS
Motherboard	
CPU	Intel® N2600 1.6GHz dual-core processor,
Chipset	Intel® NM10
BIOS	UEFI BIOS
Memory	2GB DDR3 800MHz (N2600 supports up to 2GB)
Chipset Graphics Engine	Intel® GMA 3600, 400 MHz core speed for N2600
Expansion	1 x PCIe Mini card slot
Audio	Realtek ALC662 HD Audio codec
Storage	
SATA	1 x 2.5" SATA HDD

System Function	
Display Output	Support HDMI, VGA for dual independent display Display 1: Analog CRT up to 1920x1200 for Cedarview-D and Cedarview-M, support CRT hot plug Display 2: HDMI up to 1920 x 1200
Ethernet	1 x RJ-45 LAN by Realtek RTL8111E GbE
Super I/O	Fintek F81866
Indicators	HDD LED / Power LED indicator
Front I/Os	1 x HDMI 1 x VGA 2 x USB port 1 x Mic-in 1 x Line-out,
Rear I/Os	2 x USB port 2 x RS-232 (COM 1, COM 2) 1 x RS-422/485 (COM 3) 1 x RJ-45 LAN
Interior Expansions	1 x PCIe Mini slot (reserved for Wi-Fi)
Button & Switch	Reset switch AT/ATX switch Power Button
Power	
Power Supply	AT/ATX support DC IN:12V/5A Locking type DC-in jack on board (rear side)
Power Consumption	+12V @ 1.57A (Intel R Atom N2600 dual Core 1.6GHz , DDR3 800 2GB memory)
Reliability	
Watchdog Timer	Software programmable 1~255 sec. system reset

Hardware Monitor	Fintek F81865
Operating Temperature	0°C ~ 50°C with air flow
Mounting	VESA 75
EMC/Safety	CE, FCC class A
Supported OS	Microsoft® WES7E Microsoft® Windows® XP Embedded Microsoft® CE 6.0

Table 1-2: Technical Specifications

1.5 Front Panel

The front panel of the uIBX-210-CV-N2600 has the following features (**Figure 1-2**):

- 2 x RS-232 serial port connectors (COM1, COM2)
- 1 x RS-422/485 serial port connector (COM3)
- 1 x RJ-45 LAN connector
- 2 x USB 2.0 connectors

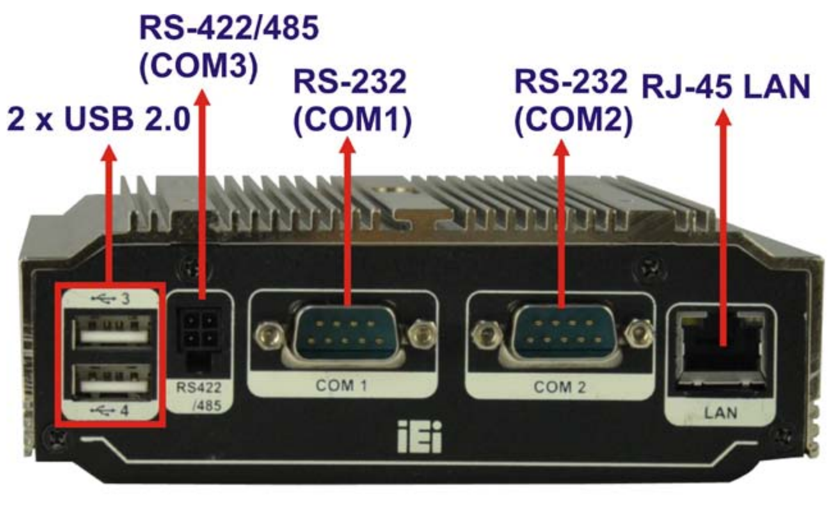


Figure 1-2: uIBX-210-CV-N2600 Front Panel

1.6 Rear Panel

The rear panel of the uIBX-210-CV-N2600 has the following features (**Figure 1-3**):

- 2 x Antenna connectors

- 1 x AT/ATX Switch
- 1 x HDD LED
- 1 x HDMI port
- 1 x Line out
- 1 x Mic
- 1 x Power button
- 1 x Power LED
- 1 x Reset button
- 2 x USB 2.0 connectors
- 1 x 12 V DC IN
- 1 x VGA port

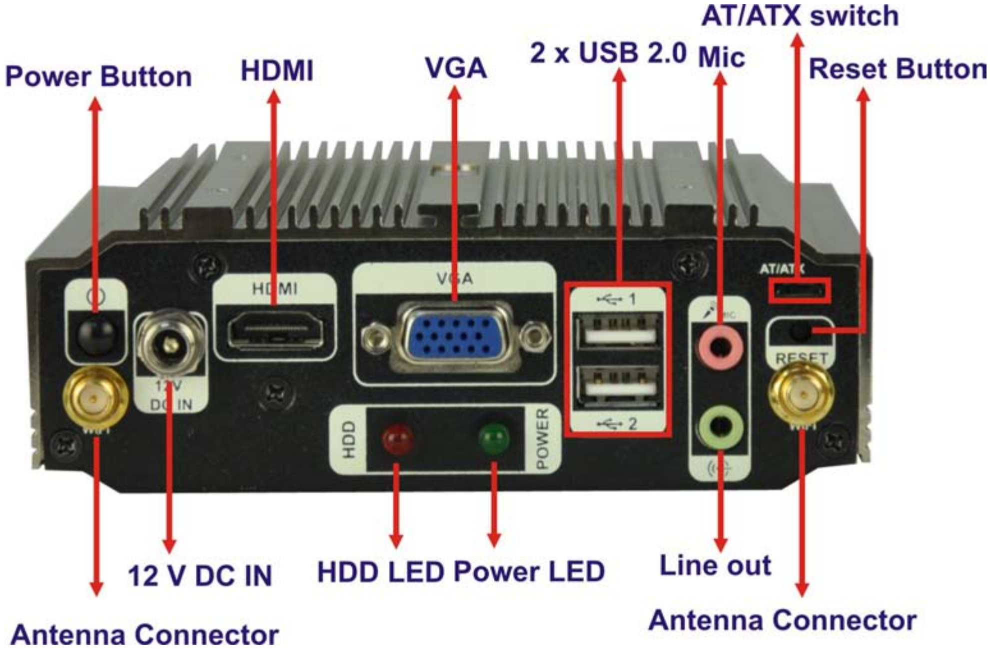


Figure 1-3: uIBX-210-CV-N2600 Rear Panel

1.7 Dimensions

The physical dimensions are shown below:

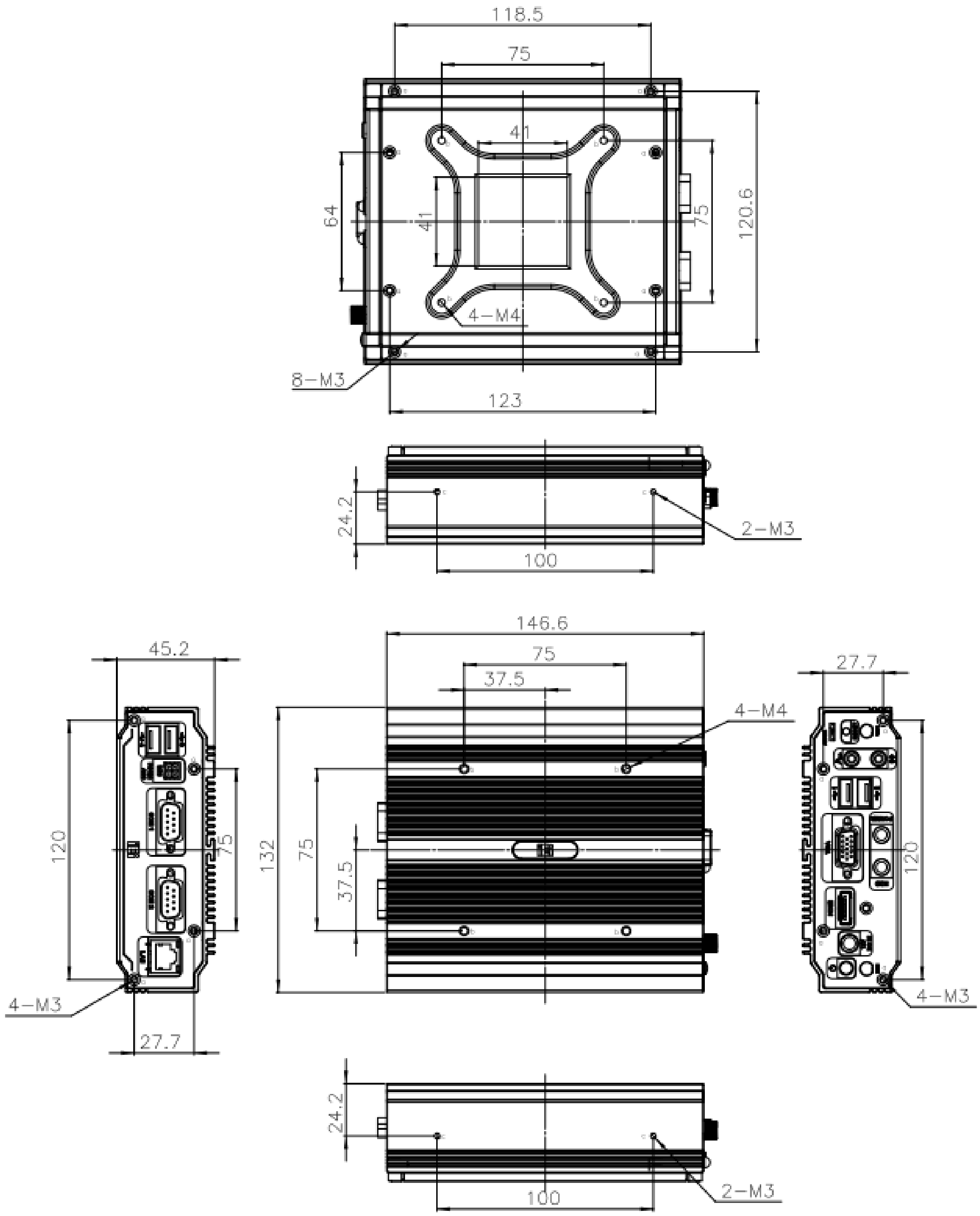


Figure 1-4: Physical Dimensions (mm)

Chapter

2

Unpacking

2.1 Anti-static Precautions

WARNING:

Failure to take ESD precautions during installation may result in permanent damage to the uIBX-210-CV-N2600 and severe injury to the user.

Electrostatic discharge (ESD) can cause serious damage to electronic components, including the uIBX-210-CV-N2600. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the uIBX-210-CV-N2600 or any other electrical component is handled, the following anti-static precautions are strictly adhered to.

- ***Wear an anti-static wristband***: Wearing a simple anti-static wristband can help to prevent ESD from damaging the board.
- ***Self-grounding***: Before handling the board, touch any grounded conducting material. During the time the board is handled, frequently touch any conducting materials that are connected to the ground.
- ***Use an anti-static pad***: When configuring the uIBX-210-CV-N2600, place it on an antic-static pad. This reduces the possibility of ESD damaging the uIBX-210-CV-N2600.

2.2 Unpacking Precautions

When the uIBX-210-CV-N2600 is unpacked, please do the following:

- Follow the anti-static precautions outlined in **Section 2.1**.
- Make sure the packing box is facing upwards so the uIBX-210-CV-N2600 does not fall out of the box.
- Make sure all the components shown in **Section 2.3** are present.

2.3 Packing List

NOTE:

If some of the components listed in the checklist below are missing, please do not proceed with the installation. Contact the IEI reseller or vendor you purchased the uIBX-210-CV-N2600 from or contact an IEI sales representative directly. To contact an IEI sales representative, please send an email to sales@iei.com.tw.

The uIBX-210-CV-N2600 is shipped with the following components:

Quantity	Item and Part Number	Image
1	uIBX-210-CV-N2600	
1	1 x Adaptor 12V/5A	
1	1 x Screw set	
1	Utility CD	
1	One Key Recovery CD	

Table 2-1: Package List Contents

Chapter

3

Installation

3.1 Installation Precautions

During installation, be aware of the precautions below:

- **Read the user manual**: The user manual provides a complete description of the uIBX-210-CV-N2600, installation instructions and configuration options.
- **DANGER! Disconnect Power**: Power to the uIBX-210-CV-N2600 must be disconnected during the installation process, or before any attempt is made to access the rear panel. Electric shock and personal injury might occur if the rear panel of the uIBX-210-CV-N2600 is opened while the power cord is still connected to an electrical outlet.
- **Qualified Personnel**: The uIBX-210-CV-N2600 must be installed and operated only by trained and qualified personnel. Maintenance, upgrades, or repairs may only be carried out by qualified personnel who are familiar with the associated dangers.
- **Grounding**: The uIBX-210-CV-N2600 should be properly grounded. The voltage feeds must not be overloaded. Adjust the cabling and provide external overcharge protection per the electrical values indicated on the label attached to the back of the uIBX-210-CV-N2600.

3.2 Installation and Configuration Steps

The following installation steps must be followed.

Step 1: Unpack the uIBX-210-CV-N2600.

Step 2: Configure the system.

Step 3: Connect peripheral devices to the uIBX-210-CV-N2600.

Step 4: Mount the uIBX-210-CV-N2600.

3.3 Wi-Fi Antenna Installation (Wi-Fi Model Only)

To install the Wi-Fi antennas to the uIBX-210-CV-N2600 series for efficient wireless network transmission, follow the steps below.

Step 1: Locate the antenna connectors on the rear panel of the embedded system.

Step 2: Install the antennas to the antenna connectors (**Figure 3-1**).



Figure 3-1: Wi-Fi Antenna Installation

3.4 AT/ATX Mode Selection

AT or ATX power mode can be used on the uIBX-210-CV-N2600. The selection is made through an AT/ATX switch located on the rear panel (Figure 3-2). To select AT mode or ATX mode, follow the steps below.

Step 1: Locate the AT/ATX switch on the rear panel (**Figure 3-2**).



Figure 3-2: AT/ATX Switch Location

Step 2: Adjust the AT/ATX switch.

3.4.1 AT Power Mode

With the AT mode selected, the power is controlled by a central power unit rather than a power switch. The uIBX-210-CV-N2600 panel PC turns on automatically when the power is connected. The AT mode benefits a production line to control multiple panel PCs from a central management center and other applications including:

- ATM
- Self-service kiosk
- Plant environment monitoring system
- Factory automation platform
- Manufacturing shop flow

3.4.2 ATX Power Mode

With the ATX mode selected, the uIBX-210-CV-N2600 panel PC goes in a standby mode when it is turned off. The panel PC can be easily turned on via network or a power switch in standby mode. Remote power control is perfect for advertising applications since the broadcasting time for each panel PC can be set individually and controlled remotely. Other possible application includes:

- Security surveillance
- Point-of-Sale (POS)
- Advertising terminal

3.5 Reset the System

The reset button enables user to reboot the system when the system is turned on. To reboot the system, follow the steps below.

Step 1: Locate the reset button on the rear panel (**Figure 3-3**).



Figure 3-3: Reset Button Location

Step 2: Press the reset button.

3.6 Powering On the System

To power on the system, follow the steps below:

Step 1: Press the power button on the front panel (**Figure 3-4**).

Step 2: Once turned on, the power LED should light up.

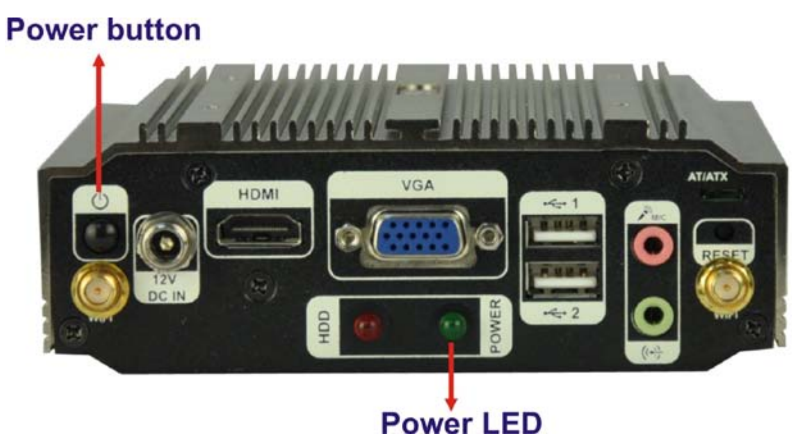


Figure 3-4: Power Button Location

3.7 Mount the System

The mounting methods are described below.

3.7.1 Wall Mount

To mount the embedded system onto a wall using the optional VESA 75 wall mount kit, please follow the steps below.

Step 1: Select the location on the wall for the wall-mounting bracket.

Step 2: Carefully mark the locations of the four brackets screw holes on the wall.

Step 3: Drill four pilot holes at the marked locations on the wall for the bracket retention screws.

Step 4: Align the wall-mounting bracket screw holes with the pilot holes.

Step 5: Secure the mounting-bracket to the wall by inserting the retention screws into the four pilot holes and tightening them (Figure 3-5).

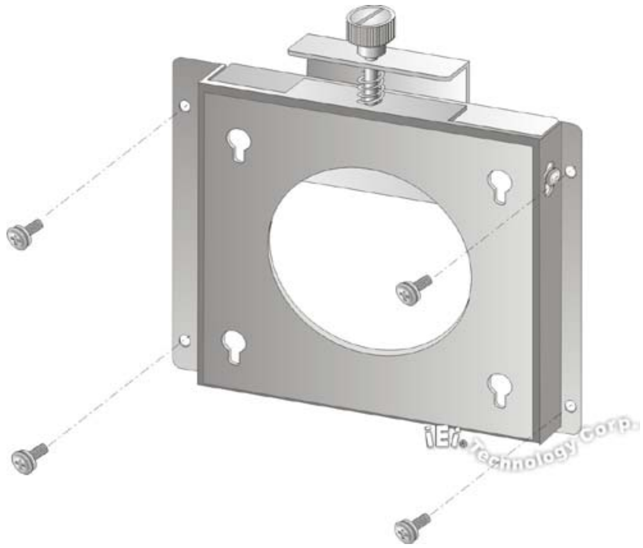


Figure 3-5: Wall-mounting Bracket

Step 6: Insert the four mounting screws provided in the package into the four screw holes on the bottom panel of the uIBX-210-CV-N2600 and tighten until the screw shank is secured against the bottom panel (Figure 3-6).

Step 7: Align the mounting screws on the bottom panel with the mounting holes on the bracket.

Step 8: Carefully insert the screws through the holes and gently pull the system downwards until the system rests securely in the slotted holes (Figure 3-6). Ensure that all four of the mounting screws fit snuggly into their respective slotted holes.

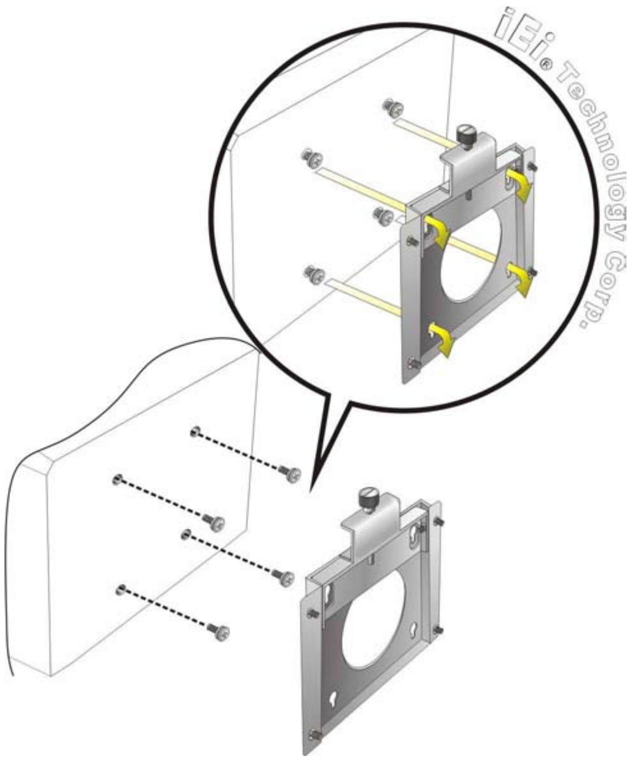


Figure 3-6: Chassis Support Screws

Step 9: Secure the uIBX-210-CV-N2600 by fastening the retention screw of the wall-mounting bracket. (Figure 3-7).

NOTE:

In the diagram below the bracket is already installed on the wall.

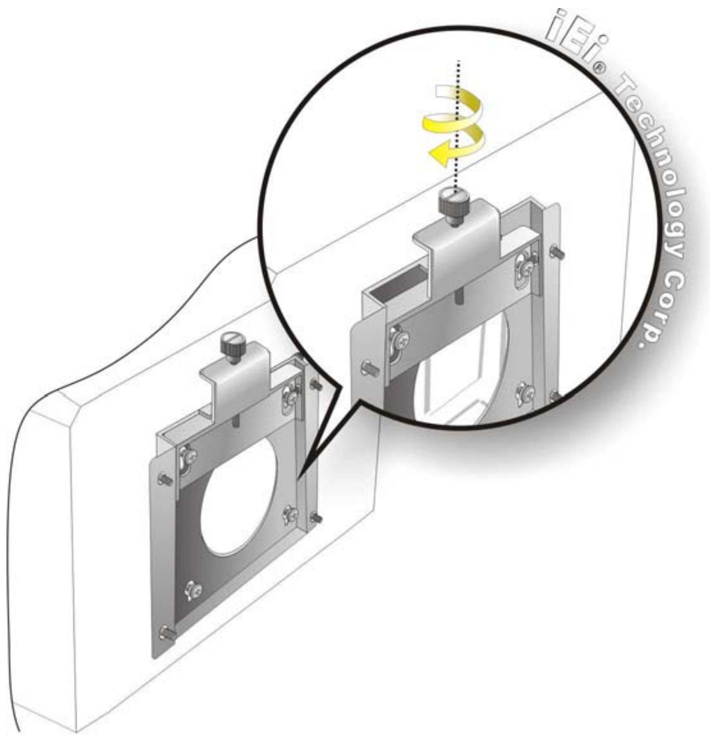


Figure 3-7: Secure the uIBX-210-CV-N2600

3.7.2 VESA mount 75

To mount the embedded system onto a panel PC (VESA 75 mm), please follow the steps below.

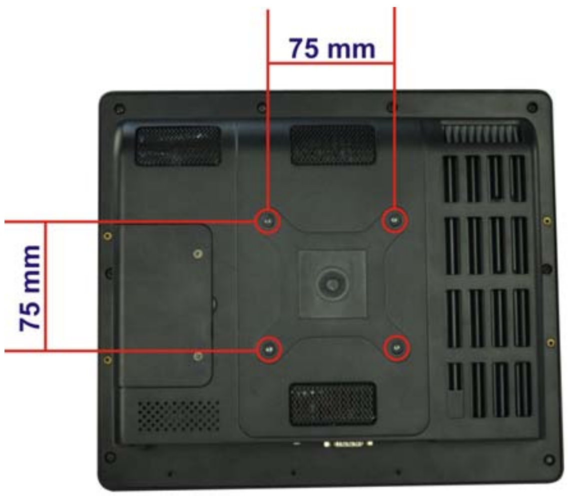


Figure 3–8: Panel PC (VESA 75 mm)

Step 1: Install the mount kit on the back of the panel PC.



Figure 3–9: Mount Kit Installation

Step 2: Slide the uIBX-210-CV-N2600 into the mount kit.



Figure 3–10: Slide the System

Step 3: Fasten the four screws on the mount kit.



Figure 3–11: Mount Kit Screws

Step 4: Attach the uIBX-210-CV-N2600 to the stand using four retention screws.



Figure 3–12: Stand Installation

3.7.3 VESA mount 100

To mount the embedded system onto a panel PC (VESA 100 mm), please follow the steps below.

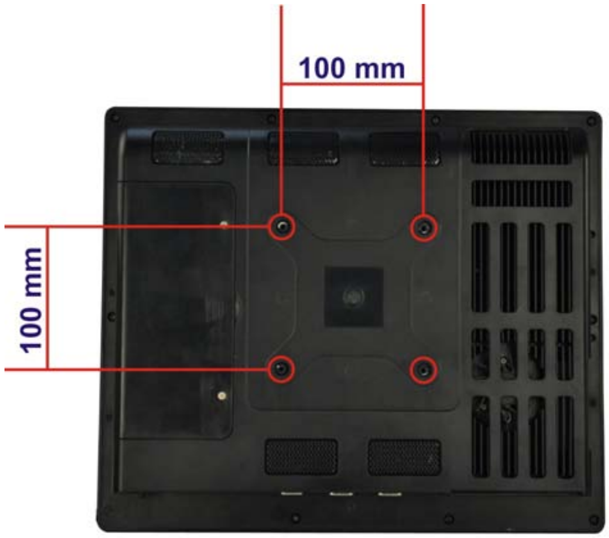


Figure 3–13: Panel PC (VESA 100 mm)

Step 1: If the mounting pattern on the panel PC is VESA 100 mm then the adapter must be attached.



Figure 3–14: 100 mm to 75 mm Adapter

Step 2: Fasten the mount kit onto the VESA mount 100 mm to 75 mm adapter on the back of the panel PC.



Figure 3–15: Mount Kit Installation

Step 3: Slide the uIBX-210-CV-N2600 into the mount kit.



Figure 3–16: Slide the System

Step 4: Fasten the four screws on the mount kit.



Figure 3–17: Mount Kit Screws

Step 5: Attach the uIBX-210-CV-N2600 to the stand using four retention screws.



Figure 3–18: Stand Installation

3.8 External Peripheral Interface Connectors

The following external peripheral devices can be connected to the external peripheral interface connectors.

- Audio devices
- DVI devices
- HDMI devices
- RJ-45 Ethernet cable connector
- Serial devices
- USB devices

To install these devices, connect the corresponding cable connector from the actual device to the corresponding uIBX-210-CV-N2600 external peripheral interface connector making sure the pins are properly aligned.

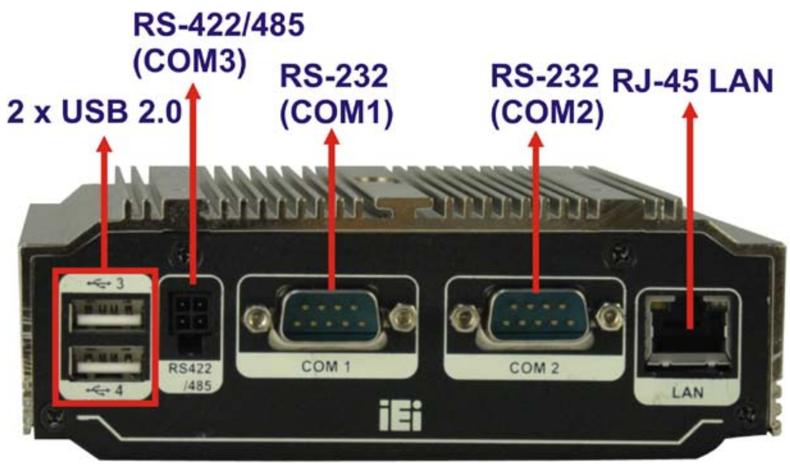


Figure 3-19: Peripheral Connectors (Front Panel)

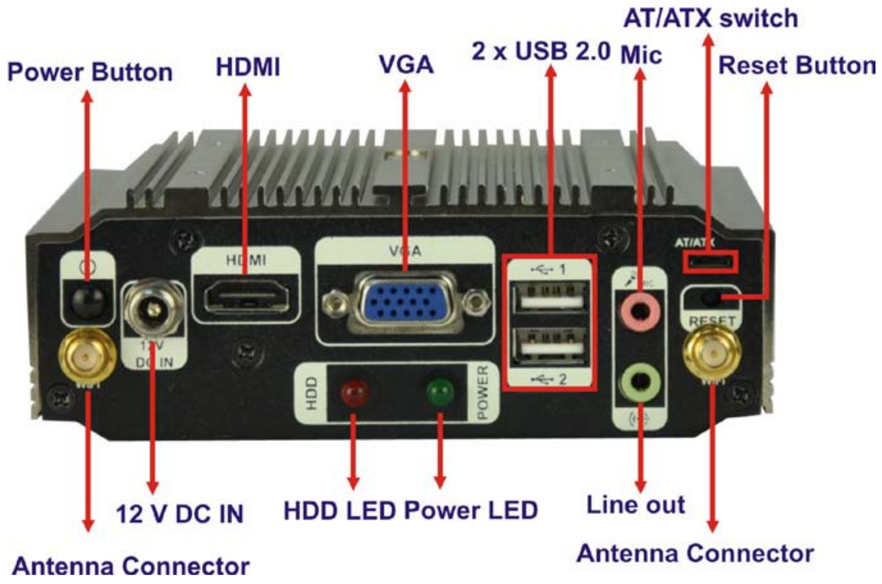


Figure 3-20: Peripheral Connectors (Rear Panel)

3.8.1 Audio Connection

The audio jacks on the external audio connector enable the uIBX-210-CV-N2600 to be connected to a stereo sound setup. To install the audio devices, follow the steps below.

Step 1: **Identify the audio plugs**. The plugs on your home theater system or speakers may not match the colors on the rear panel. If audio plugs are plugged into the wrong jacks, sound quality will be very bad.

Step 2: **Plug the audio plugs into the audio jacks**. Plug the audio plugs into the audio jacks. If the plugs on your speakers are different, an adapter will need to be used to plug them into the audio jacks.

- **Line Out port (Lime):** Connects to a headphone or a speaker.
- **Microphone (Pink):** Connects to a microphone.

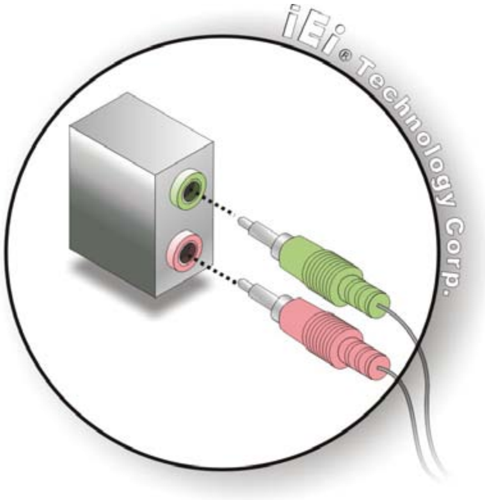


Figure 3-21: Audio Connector

Step 3: **Check audio clarity**. Check that the sound is coming through the right speakers by adjusting the balance front to rear and left to right.

3.8.2 HDMI Device Connection

The HDMI connector transmits a digital signal to compatible HDMI display devices such as a TV or computer screen. To connect the HDMI cable to the uIBX-210-CV-N2600, follow the steps below.

Step 1: **Locate the HDMI connector**. The location is shown in **Chapter 1**.

Step 2: **Align the connector.** Align the HDMI connector with the HDMI port. Make sure the orientation of the connector is correct.

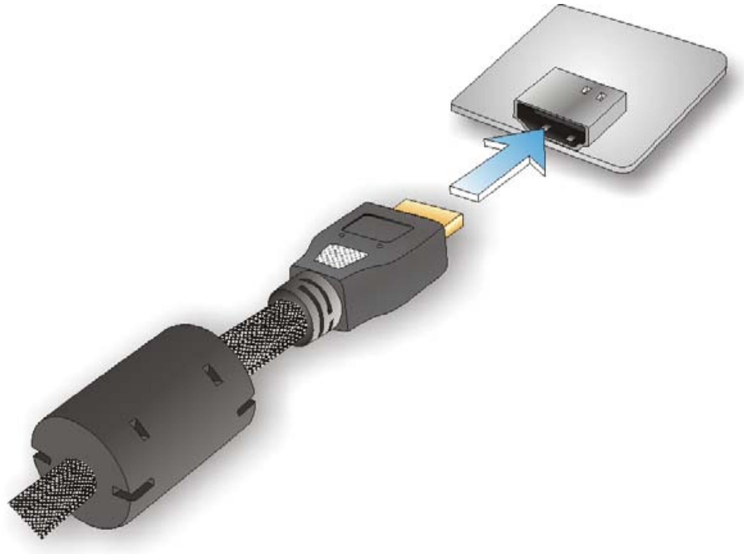


Figure 3-22: HDMI Connection

Step 3: **Insert the HDMI connector.** Gently insert the HDMI connector. The connector should engage with a gentle push. If the connector does not insert easily, check again that the connector is aligned correctly, and that the connector is being inserted with the right way up.

3.8.3 LAN Connection

There is one external RJ-45 LAN connector. The RJ-45 connector enables connection to an external network. To connect a LAN cable with an RJ-45 connector, please follow the instructions below.

Step 1: **Locate the RJ-45 connectors**. The location of the LAN connector is shown in **Chapter 1**.

Step 2: **Align the connectors.** Align the RJ-45 connector on the LAN cable with the RJ-45 connector on the uIBX-210-CV-N2600. See Figure 3-23.

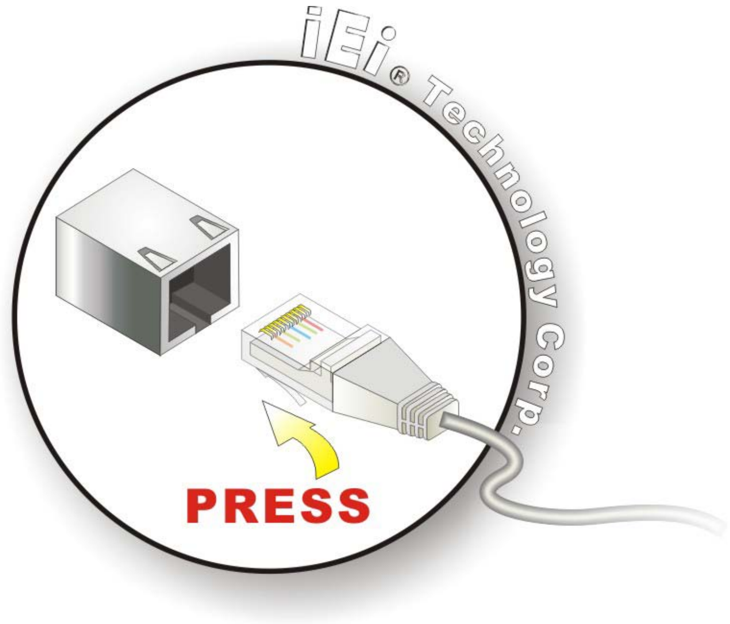


Figure 3-23: LAN Connection

Step 3: **Insert the LAN cable RJ-45 connector.** Once aligned, gently insert the LAN cable RJ-45 connector into the RJ-45 connector.

3.8.4 RS-232Serial Port Connection

There are two RS-232 DB-9 connectors of the uIBX-210-CV-N2600 for serial device connection. Follow the steps below to connect a serial device to the DB-9 connector of the uIBX-210-CV-N2600.

Step 1: **Locate the DB-9 connector**. The locations of the DB-9 connectors are shown in **Chapter 1**.

Step 2: **Insert the serial connector**. Insert the DB-9 connector of a serial device into the DB-9 connector on the uIBX-210-CV-N2600. See Figure 3-24.

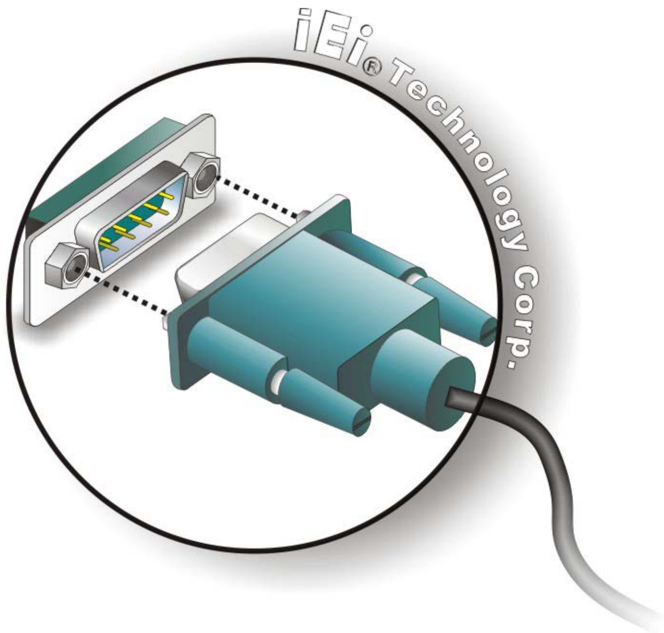


Figure 3-24: DB-9 Serial Port Connector

Step 3: **Secure the connector**. Secure the serial device connector to the external interface by tightening the two retention screws on either side of the connector.

3.8.5 RS-422/485 Serial Port Connection

There is one RS-422/485 serial port of the uIBX-210-CV-N2600 for serial device connection. Follow the steps below to connect a serial device to the RS-422/485 serial port of the uIBX-210-CV-N2600.

Step 1: Locate the RS-422/RS485 connector. The location of the RS-422/485 connector is shown in Figure 1-2.

Step 2: **Connect the RS-422/485 cable to the RS-422/485 connector.** The RS-422/485 cable can be bought from IEI and is shown in **Figure 3-25**.



Figure 3-25: RS-422/485 Cable

Step 3: **Insert the serial connector**. Insert the DB-9 connector of a serial device into the DB-9 connector on the RS-422/485 cable.

Step 4: **Secure the connector**. Secure the serial device connector to the external interface by tightening the two retention screws on either side of the connector.

3.8.6 USB Device Connection

There are four USB 2.0 connectors on the uIBX-210-CV-N2600. To connect a USB device, please follow the instructions below.

Step 1: **Locate the USB connectors**. The locations of the USB connectors are shown in **Chapter 1**.

Step 2: **Align the connectors.** Align the USB device connector with one of the connectors on the uIBX-210-CV-N2600. See **Figure 3-26**.

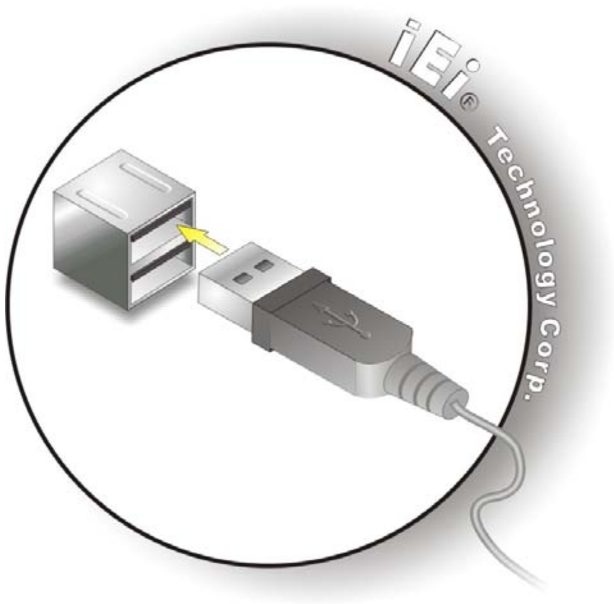


Figure 3-26: USB Device Connection

Step 3: **Insert the device connector.** Once aligned, gently insert the USB device connector into the onboard connector.

3.8.7 VGA Monitor Connection

The uIBX-210-CV-N2600 has a single female DB-15 connector on the rear panel. The DB-15 connector is connected to a CRT or VGA monitor. To connect a monitor to the uIBX-210-CV-N2600, please follow the instructions below.

Step 1: **Locate the female DB-15 connector**. The location of the female DB-15 connector is shown in **Chapter 1**.

Step 2: **Align the VGA connector**. Align the male DB-15 connector on the VGA screen cable with the female DB-15 connector on the uIBX-210-CV-N2600.

Step 3: **Insert the VGA connector**. Once the connectors are properly aligned with the insert the male connector from the VGA screen into the female connector on the uIBX-210-CV-N2600. See **Figure 3-27**.

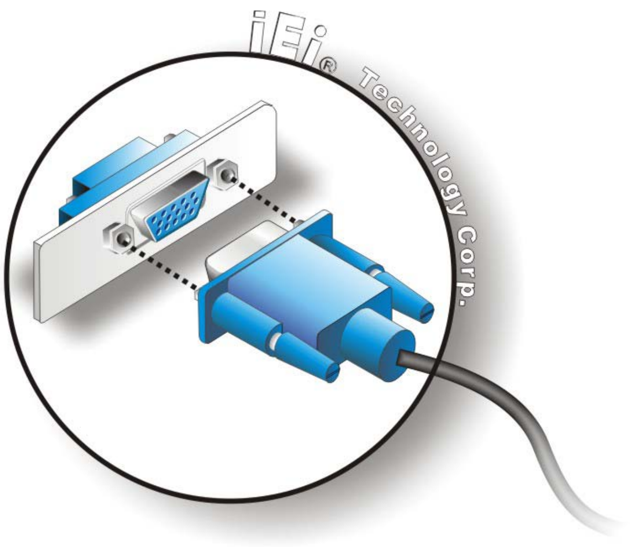


Figure 3-27: VGA Connector

Step 4: **Secure the connector**. Secure the DB-15 VGA connector from the VGA monitor to the external interface by tightening the two retention screws on either side of the connector.

Chapter

4

System Motherboard

4.1 Overview

This chapter details all the jumpers and connectors of the system motherboard.

4.1.1 Layout

The figures below show all the connectors and jumpers of the system motherboard. The Pin 1 locations of the on-board connectors are also indicated in the diagram below.

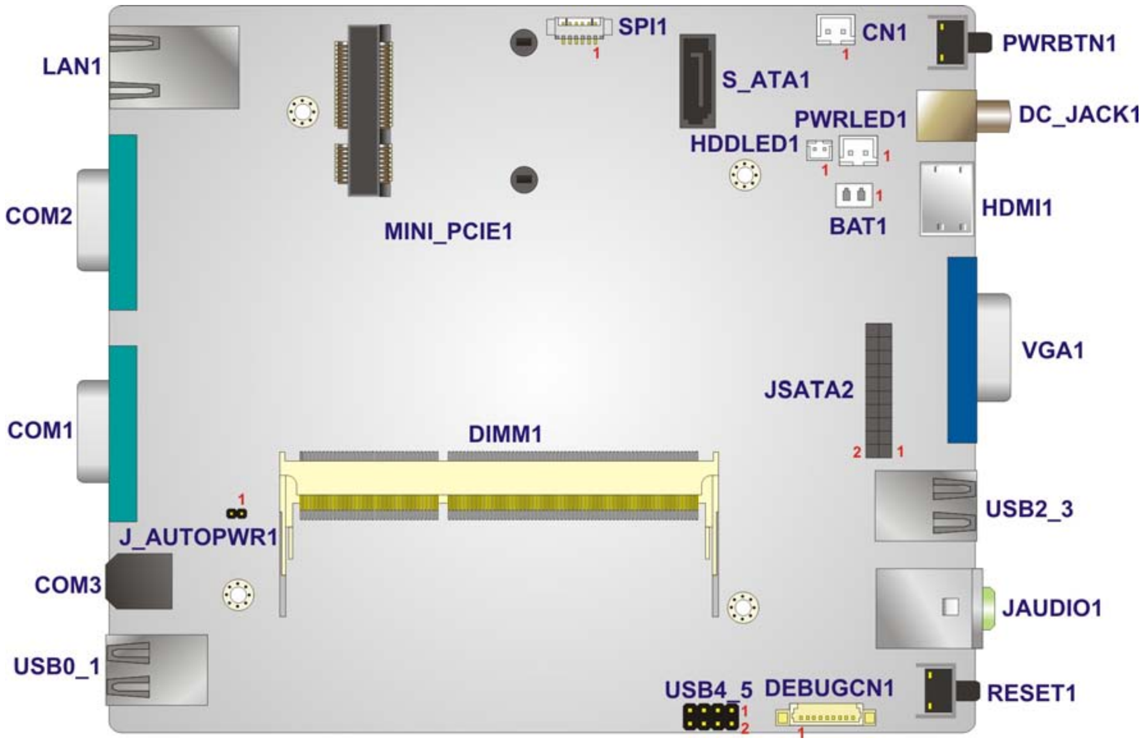


Figure 4-1: System Motherboard

4.2 Internal Peripheral Connectors

The table below shows a list of the internal peripheral interface connectors on the system motherboard. Pinouts of these connectors can be found in the following sections.

Connector	Type	Label
Battery connector	2-pin wafer	BAT1
BIOS programming connector	6-pin wafer	SPI1

Connector	Type	Label
DDR3 SO-DIMM slot	DDR3 SO-DIMM slot	DIMM1
Debug port connector	9-pin wafer	DEBUGCN1
HDD LED connector	2-pin wafer	HDDLED1
JSATA connector	20-pin connector	JSATA2
PCIe Mini Card Slot	PCIe mini card slot	MINI_PCIE1
Power LED connector	2-pin wafer	PWRLED1
USB 2.0 connector	8-pin header	USB4_5
SATA 3Gb/s drive connector	7-pin SATA connector	S_ATA1
SATA power connector	2-pin wafer	CN1

Table 4-1: Peripheral Interface Connectors

4.2.1 Battery Connector (BAT1)

PIN NO.	DESCRIPTION
1	VBATT
2	GND

Table 4-2: Battery Connector Pinouts (BAT1)

4.2.2 BIOS Programming Connector (SPI1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+SPI_VCC	2	SPI_CS#0_CN
3	SPI_SO0_CN	4	SPI_CLK0_CN
5	SPI_SI0_CN	6	GND

Table 4-3: BIOS Programming Connector Pinouts (SPI1)

4.2.3 Debug port Connector (DEBUGCN1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	PLT_RST#	2	LPC_DEBUG_CLK
3	GND	4	LPC_AD3

5	LPC_AD2	6	LPC_AD1
7	LPC_AD0	8	LPC_FRAME#
9	+3.3V		

Table 4-4: Debug port Connector Pinouts (DEBUGCN1)

4.2.4 HDD LED Connector (HDDLED1)

PIN NO.	DESCRIPTION
1	SATA_LED#
2	+5V

Table 4-5: HDD LED Connector Pinouts (HDDLED1)

4.2.5 JSATA Connector (JSATA2)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	+12V
3	N/C	4	+12V
5	N/C	6	N/C
7	GND	8	+5V
9	SATA_RX1+	10	+5V
11	SATA_RX1-	12	+5V
13	GND	14	+5V
15	SATA_TX1-	16	GND
17	SATA_TX1+	18	+3V
19	GND	20	+3V

Table 4-6: JSATA Connector Pinouts (JSATA2)

4.2.6 Power LED Connector (PWRLED1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	+5V

Table 4-7: Power LED Connector Pinouts (PWRLED1)

4.2.7 USB 2.0 Connector (USB4_5)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+5V	2	GND
3	USB_PN5	4	USB_PP6
5	USB_PP5	6	USB_PN6
7	GND	8	+5V

Table 4-8: USB 2.0 Connector Pinouts (USB4_5)

4.2.8 SATA Connector (S_ATA1)

PIN NO.	DESCRIPTION
1	GND
2	SATA_TX0+
3	SATA_TX0-
4	GND
5	SATA_RX0-
6	SATA_RX0+
7	GND

Table 4-9: SATA Connector Pinouts (S_ATA1)

4.2.9 SATA Power Connector (CN1)

PIN NO.	DESCRIPTION
1	+5V
2	GND

Table 4-10: SATA Power Connector Pinouts (CN1)

4.3 External Interface Panel Connectors

The table below shows a list of the external interface panel connectors on the system motherboard. Pinouts of these connectors can be found in the following sections.

Connector	Type	Label
Audio jack (mic-in, line-out)	Audio jack	JAUDIO1
Ethernet connector	RJ-45	LAN1
HDMI connector	HDMI	HDMI1
Power connector	Power jack	DC_JACK1
RS-232 serial ports	DB-9	COM1, COM2
RS-422/485 serial port	4-pin connector	COM3
USB 2.0 connectors	USB 2.0 port	USB0_1, USB2_3
VGA connector	DB-15	VGA1

Table 4-11: Rear Panel Connectors

4.3.1 Audio Jack (JAUDIO1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND_AUDIO	2	LMIC1-CONN-L
3	GND_AUDIO	4	JD_MIC
5	LMIC1-CONN-R	22	LFRONT-L
23	GND_AUDIO	24	JD_FRONT
25	LFRONT-R		

Table 4-12: Audio Jack Pinouts (JAUDIO1)

4.3.2 Ethernet Connector (LAN1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	MDI0+	2	MDI0-
3	MDI1+	4	MDI1-
5	GND	6	GND

7	MDI2+	8	MDI2-
9	MDI3+	10	MDI3-
11	LINK100	12	LINK1000
13	ACT	14	+V3.3A_LAN1
15	GND	16	GND

Table 4-13: Ethernet Connector Pinouts (LAN1)

4.3.3 HDMI Connector (HDMI1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	HDMI_DATA2	2	GND
3	HDMI_DATA2#	4	HDMI_DATA1
5	GND	6	HDMI_DATA1#
7	HDMI_DATA0	8	GND
9	HDMI_DATA0#	10	HDMI_CLK
11	GND	12	HDMI_CLK#
13	NC	14	NC
15	HDMI_SCL	16	HDMI_SDA
17	GND	18	+5V
19	HDMI_HPD		

Table 4-14: HDMI Connector (HDMI1) Pinouts

4.3.4 Power Connector (DC_JACK1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	VCC12V	2	GND
3	GND		

Table 4-15: Power Connector Pinouts (DC_JACK1)

4.3.5 RS-232 Serial Ports (COM1, COM2)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	NDCD1/2	2	NRXD1/2
3	NTXD1/2	4	NDTR1/2

5	GND	6	NDSR1/2
7	NRTS1/2	8	NCTS1/2
9	NRI1/2	10	

Table 4-16: RS-232 Serial Ports Pinouts (COM1, COM2)

4.3.6 RS-422/485 Serial Port (COM3)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	RXD485+	2	RXD485#
3	TXD485+	4	TXD485#

Table 4-17: RS-422/485 Serial Port Pinouts (COM3)

4.3.7 USB 2.0 Connectors (USB0_1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+5V	2	USB_PN0
3	USB_PP0	4	GND
5	+5V	6	USB_PN1
7	USB_PP1	8	GND

Table 4-18: USB 2.0 Connectors Pinouts (USB0_1)

4.3.8 USB 2.0 Connector (USB23)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+5V	2	USB_PN2
3	USB_PP2	4	GND
5	+5V	6	USB_PN3
7	USB_PP3	8	GND

Table 4-19: USB 2.0 Connector Pinouts (USB2_3)

4.3.9 VGA Connector (VGA1)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	Red	2	Green
3	Blue	4	NC

5	GND	6	GND
7	GND	8	GND
9	VGAVCC	10	HOTPLUG
11	NC	12	DDCDAT
13	HSYNC	14	VSYNC
15	DDCCLK		

Table 4-20: VGA Connector Pinouts (VGA1)

4.4 Jumper Settings

The jumpers on the system motherboard are listed in **Table 4-21**.

Connector	Type	Label
AT/ATX mode select	2-pin header	J_AUTOPWR1

Table 4-21: Jumper

4.4.1 AT/ATX Mode Select Jumper (J_AUTOPWR1)

Pin	Description
Short	AT Mode
Open	ATX Mode (Default)

Table 4-22: AT/ATX Mode Select Jumper Settings (J_AUTOPWR1)

Chapter

5

System Maintenance

5.1 System Maintenance Introduction

If the components of the uIBX-210-CV-N2600 fail they must be replaced. Component that can be replaced include:

- HDD module
- SO-DIMM module
- WLAN module

Please contact the system reseller or vendor to purchase the replacement parts. Back cover removal instructions for the uIBX-210-CV-N2600 are described below.

5.2 Anti-static Precautions

WARNING:

Failure to take ESD precautions during the maintenance of the uIBX-210-CV-N2600 may result in permanent damage to the uIBX-210-CV-N2600 and severe injury to the user.

Electrostatic discharge (ESD) can cause serious damage to electronic components, including the uIBX-210-CV-N2600. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the uIBX-210-CV-N2600 is accessed internally, or any other electrical component is handled, the following anti-static precautions are strictly adhered to.

- ***Wear an anti-static wristband***: - Wearing a simple anti-static wristband can help to prevent ESD from damaging the board.
- ***Self-grounding***: - Before handling the board touch any grounded conducting material. During the time the board is handled, frequently touch any conducting materials that are connected to the ground.
- ***Use an anti-static pad***: - When configuring the uIBX-210-CV-N2600, place it on an antic-static pad. This reduces the possibility of ESD damaging the uIBX-210-CV-N2600.

- ***Only handle the edges of the PCB***: - When handling the PCB, hold the PCB by the edges.

5.3 Turn off the Power

WARNING:

Failing to turn off the system before opening can cause permanent damage to the system and serious or fatal injury to the user.

Before any maintenance procedures are carried out on the system, make sure the system is turned off.

5.4 Replacing Components

5.4.1 Hard Disk Drive (HDD) Replacement

To replace the hard drive, please follow the steps below:

Step 1: Remove eight (8) retention screws from the back cover (**Figure 5-1**).



Figure 5-1: Retention Screws Removal

Step 2: Remove the back cover and locate the HDD bracket (**Figure 5-2**).

Step 3: Remove the four HDD bracket retention screws and disconnect the SATA connector (JSATA2), as shown in **Figure 5-2**.



Figure 5-2: HDD Bracket Retention Screws

Step 4: Lift the HDD bracket out of the uIBX-210-CV-N2600 (**Figure 5-3**).



Figure 5-3: HDD Bracket

Step 5: Remove the four HDD retention screws (**Figure 5-4**).

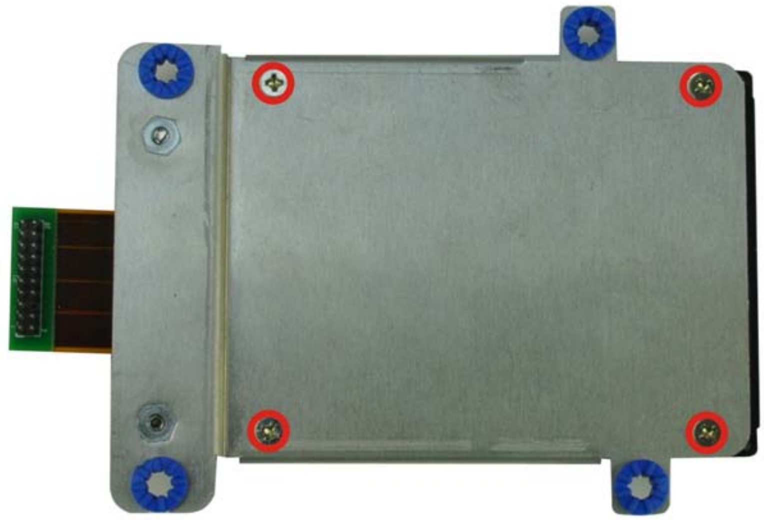


Figure 5-4: HDD Retention Screws

Step 6: Remove the old HDD from the HDD bracket (**Figure 5-5**)..



Figure 5-5: Remove the old HDD

Step 7: Slide the new HDD to the HDD bracket. Secure the HDD with the HDD bracket by four HDD retention screws.

Step 8: Correctly align the four retention screw holes on the HDD bracket with the retention screw holes on the chassis. Insert four previously removed retention screws to secure the HDD bracket to the chassis.

Step 9: Connect the SATA connector (JSATA2).

Step 10: Replace the back cover and secure it using eight (8) previously removed retention screws.

5.4.2 Memory Module Replacement

If the memory module fails, follow the instructions below to replace the memory module.

Step 1: Remove eight (8) retention screws from the back cover. See **Section 5.4.1**.

Step 2: Remove HDD module. See **Section 5.4.1**.

Step 3: Locate the memory module indicated below.

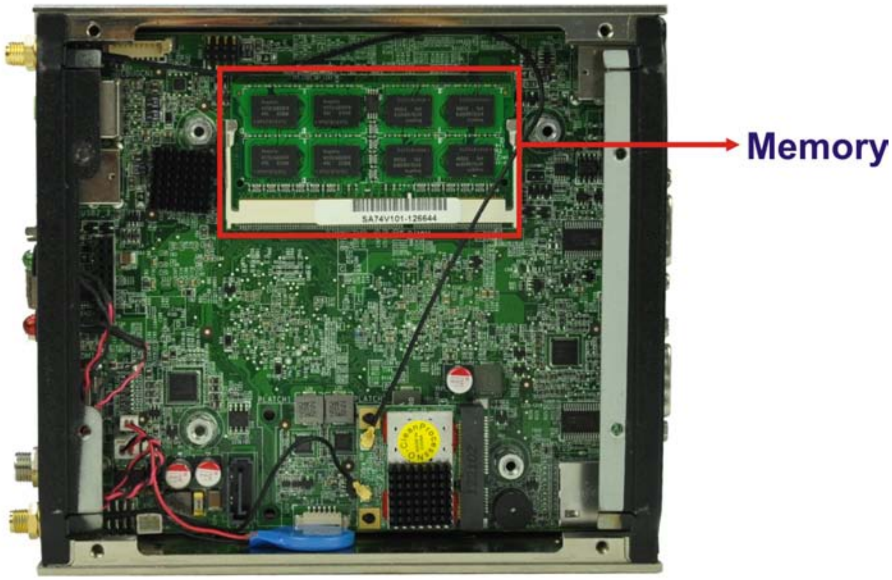


Figure 5-6: uIBX-210-CV-N2600 SO-DIMM Socket Location

Step 4: Remove the DDR3 memory module by pulling both the spring retainer clips outward from the socket.

Step 5: Grasp the DDR3 memory module by the edges and carefully pull it out of the socket.

Step 6: Install the new DDR3 memory module by pushing it into the socket at an angle (**Figure 5-7**).

Step 7: Gently pull the spring retainer clips of the SO-DIMM socket out and push the rear of the DDR3 memory module down (**Figure 5-7**).

Step 8: Release the spring retainer clips on the SO-DIMM socket. They clip into place and secure the DDR3 memory module in the socket.

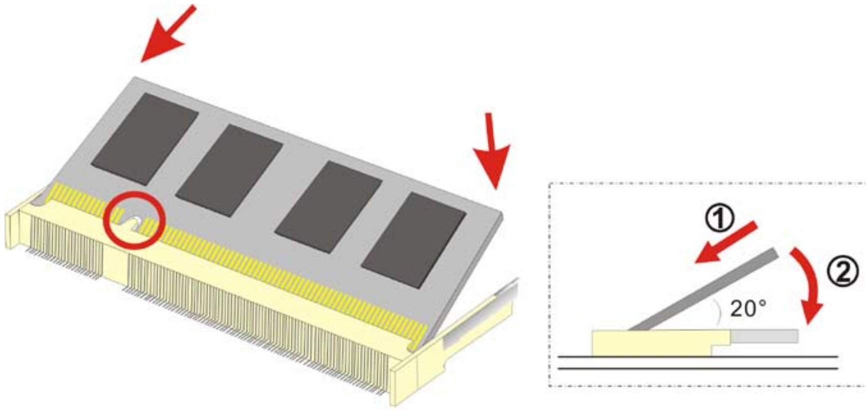


Figure 5-7: DDR3 SO-DIMM Module Installation

Step 9: Replace the back cover and secure it using eight (8) previously removed retention screws.

5.4.3 WLAN Card Replacement

The uIBX-210-CV-N2600 has one WLAN card slot. To replace the WLAN card, follow the instructions below.

Step 1: Remove eight (8) retention screws from the back cover. See **Section 5.4.1**.

Step 2: Remove HDD module. See **Section 5.4.1**.

Step 3: Locate the WLAN card.

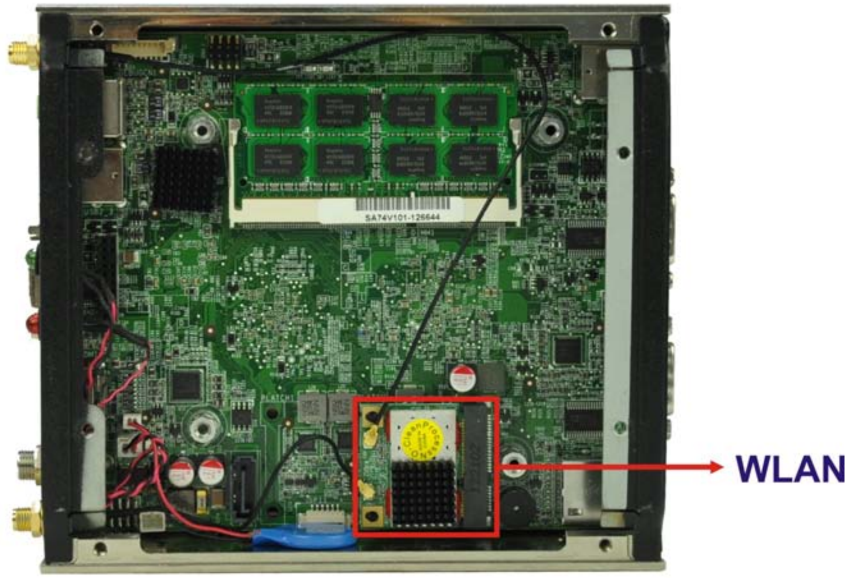


Figure 5-8: uIBX-210-CV-N2600 SO-DIMM Socket Location

Step 4: Disconnect the antenna connectors on the WLAN module (**Figure 5-9**).



Figure 5-9: Removing the Antennas

Step 5: Push the two spring clips in to release the WLAN card.



Figure 5-10: Releasing the WLAN Card

Step 6: Grasp the WLAN card by the edges and carefully pull it out of the socket (**Figure 5-11**).

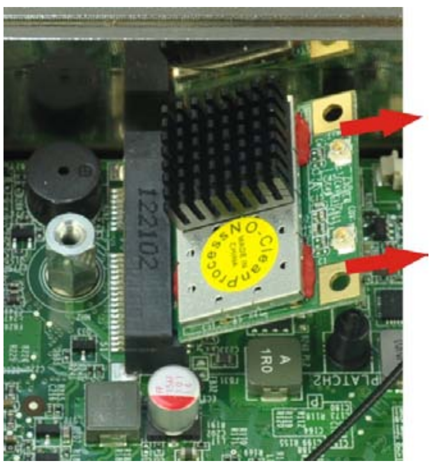


Figure 5-11: Removing the WLAN card

Step 7: Install a new WLAN card by inserting the card into the slot at an angle

Step 8: Push the WLAN card down until the spring retainer clips lock into place.

Step 9: Connect the antenna connectors on the WLAN module.

Step 10: Replace the back cover and secure it using eight (8) previously removed retention screws.

Chapter

6

BIOS

6.1 Introduction

The BIOS is programmed onto the BIOS chip. The BIOS setup program allows changes to certain system settings. This chapter outlines the options that can be changed.

6.1.1 Starting Setup

The AMI BIOS is activated when the computer is turned on. The setup program can be activated in one of two ways.

1. Press the **DELETE** key as soon as the system is turned on or
2. Press the **DELETE** key when the "**Press Del to enter SETUP**" message appears on the screen.

If the message disappears before the **DELETE** key is pressed, restart the computer and try again.

6.1.2 Using Setup

Use the arrow keys to highlight items, press **ENTER** to select, use the PageUp and PageDown keys to change entries, press **F1** for help and press **ESC** to quit. Navigation keys are shown in.

Key	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left hand side
Right arrow	Move to the item on the right hand side
Esc key	Main Menu – Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu -- Exit current page and return to Main Menu
F1 key	General help, only for Status Page Setup Menu and Option Page Setup Menu
F2 key	Load previous values.
F3 key	Load optimized defaults

Key	Function
F4 key	Save all the CMOS changes

Table 6-1: BIOS Navigation Keys

6.1.3 Getting Help

When **F1** is pressed a small help window describing the appropriate keys to use and the possible selections for the highlighted item appears. To exit the Help Window press **Esc** or the **F1** key again.

6.1.4 Unable to Reboot after Configuration Changes

If the computer cannot boot after changes to the system configuration is made, CMOS defaults. Use the jumper described in Chapter **5**.

6.1.5 BIOS Menu Bar

The **menu bar** on top of the BIOS screen has the following main items:

- Main – Changes the basic system configuration.
- Advanced – Changes the advanced system settings.
- Chipset – Changes the chipset settings.
- Boot – Changes the system boot configuration.
- Security – Sets User and Supervisor Passwords.
- Save & Exit – Selects exit options and loads default settings

The following sections completely describe the configuration options found in the menu items at the top of the BIOS screen and listed above.

6.2 Main

The **Main** BIOS menu (**BIOS Menu 1**) appears when the **BIOS Setup** program is entered. The **Main** menu gives an overview of the basic system information.

```
  Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
   Main     Advanced   Chipset     Boot     Security  Save & Exit

 BIOS Information                                          Set the Time. Use Tab to
 BIOS Vendor                     American Megatrends       switch between Time
 Core Version                    4.6.5.3 0.16              elements.
 Compliency                      UEFI 2.3; PI 1.2
 Project Version                 SE35AR10.ROM
 Build Date and Time             07/27/2012 11:06:08       ----------------------

 System Date                     [Tue 09/04/2012]          ←→: Select Screen
 System Time                     [14:20:27]                ↑ ↓: Select Item
                                                           EnterSelect
 Access Level                    Administrator             F1   General Help
                                                           F2   Previous Values
                                                           F3   Optimized Defaults
                                                           F4   Save
                                                           ESC  Exit
     Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 1: Main

→ BIOS Information

The **BIOS Information** lists a brief summary of the BIOS. The fields in **BIOS Information** cannot be changed. The items shown in the system overview include:

- **BIOS Vendor:** Installed BIOS vendor
- **Core Version:** Current BIOS version
- **Compliency:** Current compliant version
- **Project Version:** the board version
- **Build Date and Time:** Date the current BIOS version was made

The System Overview field also has two user configurable fields:

→ System Date [xx/xx/xx]

Use the **System Date** option to set the system date. Manually enter the day, month and year.

➔ System Time [xx:xx:xx]

Use the **System Time** option to set the system time. Manually enter the hours, minutes and seconds.

6.3 Advanced

Use the **Advanced** menu (**BIOS Menu 2**) to configure the CPU and peripheral devices through the following sub-menus:

WARNING!

Setting the wrong values in the sections below may cause the system to malfunction. Make sure that the settings made are compatible with the hardware.

```
     Aptio Setup Utility – Copyright (C) 2009 American Megatrends, Inc.
  Main    Advanced  Chipset    Boot    Security  Save & Exit

> ACPI Settings                                      System ACPI Parameters
> RTC Wake Settings
> CPU Configuration
> SATA Configuration
> USB Configuration                                  ---------------------
> F81866 Super IO Configuration
> F81866 H/M Monitor                                 ←→: Select Screen
> Serial Port Console Redirection                    ↑ ↓: Select Item
> iEi Feature                                        EnterSelect
                                                     F1   General Help
                                                     F2   Previous Values
                                                     F3    Optimized
                                                     Defaults
                                                     F4    Save
                                                     ESC   Exit
      Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 2: Advanced

6.3.1 ACPI Configuration

The **ACPI Configuration** menu (**BIOS Menu 3**) configures the Advanced Configuration and Power Interface (ACPI) options.

```
         Aptio Setup Utility – Copyright (C) 2009 American Megatrends, Inc.
            Advanced
ACPI Settings                                          |
                                                       | Select the highest ACPI
ACPI Sleep State              [S1 (CPU Stop Clock)]    | sleep state the system
                                                       | will enter when the
                                                       | SUSPEND button is
                                                       | pressed.
                                                       |
                                                       | ----------------------
                                                       |
                                                       | ←→: Select Screen
                                                       | ↑ ↓: Select Item
                                                       | EnterSelect
                                                       | F1   General Help
                                                       | F2   Previous Values
                                                       | F3    Optimized
                                                       | Defaults
                                                       | F4    Save
                                                       | ESC   Exit
          Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 3: ACPI Configuration

➔ ACPI Sleep State [S1 (CPU Stop Clock)]

Use the **ACPI Sleep State** option to specify the sleep state the system enters when it is not being used.

➔ **S1 (CPU Stop Clock)** **DEFAULT** The system enters S1 (POS) sleep state. The system appears off. The CPU is stopped; RAM is refreshed; the system is running in a low power mode.

➔ **S3 (Suspend to RAM)** The caches are flushed and the CPU is powered off. Power to the RAM is maintained. The computer returns slower to a working state, but more power is saved.

6.3.2 RTC Wake Settings

The **RTC Wake Settings** menu (**BIOS Menu 4**) configures RTC wake event.

```
          Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
            Advanced

 Wake system with Fixed Time      [Disabled]       Enable or disable System
                                                   wake on alarm event. When
                                                   enabled, System will
                                                   wake on the
                                                   dat::hr::min::sec
                                                   specified

                                                   ----------------------

                                                   ←→: Select Screen
                                                   ↑ ↓: Select Item
                                                   EnterSelect
                                                   F1   General Help
                                                   F2   Previous Values
                                                   F3   Optimized Defaults
                                                   F4   Save
                                                   ESC  Exit
          Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 4: RTC Wake Settings

➔ Wake system with Fixed Time [Disabled]

Use the **Wake system with Fixed Time** option to enable or disable the system wake on alarm event.

➔ **Disabled** **DEFAULT** The real time clock (RTC) cannot generate a wake event

➔ **Enabled** If selected, the **Wake up every day** option appears allowing you to enable to disable the system to wake every day at the specified time. Besides, the following options appear with values that can be selected:

Wake up date

Wake up hour

Wake up minute

Wake up second

After setting the alarm, the computer turns itself on from a suspend state when the alarm goes off.

6.3.3 CPU Configuration

Use the **CPU Configuration** menu (**BIOS Menu 5**) to view detailed CPU specifications and configure the hyper-threading function.

```
Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
      Advanced

CPU Configuration                                    Enable for Windows XP and
                                                     Linux (OS optimized for
Processor Type                Intel(R) Atom(TM) CPU  Hyper-Threading
                              N2600 @ 1.60GHz        Technology) and Disabled
EMT64                         Supported              for other OS (OS not
Processor Speed               1600 MHz               optimized for Hyper-
System Bus Speed              400 MHz                Threading Technology).
Ratio Status                  16
Actual Ratio                  16
Processor Stepping            30661                  ----------------------
Microcode Revision            269
L1 Cache RAM                  2x56 k                 ←→: Select Screen
L2 Cache RAM                  2x512 k                ↑ ↓: Select Item
Processor Core                Dual                   EnterSelect
Hyper-Threading               Supported              +/-:  Change Opt.
                                                     F1:   General Help
Hyper-Threading                [Enabled]             F2:   Previous Values
                                                     F3:   Optimized Defaults
                                                     F4:   Save & Exit
                                                     ESC:  Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 5: CPU Configuration

The CPU Configuration menu (**BIOS Menu 5**) lists the following CPU details:

- Processor Type: Lists the CPU processing type.
- EMT64: Indicates if EMT64 is supported by the CPU.
- Processor Speed: Lists the CPU processing speed.
- System Bus Speed: Lists the system bus speed.
- Ratio Status: Lists the ratio status.
- Actual Ratio: Lists the actual ratio.
- Processor Stepping: Lists the CPU processing stepping.
- Microcode Revision: Lists the microcode revision.
- L1 Cache RAM: Lists the L1 cache RAM size.
- L2 Cache RAM: Lists the L2 cache RAM size.
- Processor Core: Lists the number of the processor cores.

- Hyper-Threading: Indicates if hyper-threading is supported by the CPU.

→ Hyper-Threading [Disabled]

Use the **Hyper-Threading** function to enable or disable the CPU hyper-threading function.

→ **Disabled** Disables the use of hyper-threading technology

→ **Enabled** DEFAULT Enables the use of hyper-threading technology

6.3.4 SATA Configuration

Use the **SATA Configuration** menu (**BIOS Menu 6**) to change and/or set the configuration of the SATA devices installed in the system.

```
Aptio Setup Utility – Copyright (C) 2009 American Megatrends, Inc.
        Advanced

SATA Mode                        [AHCI]               Select a configuration
SATA Port1                       Hitachi HTS543 (320.0 for SATA Controller.

                                                      ---------------------

                                                      ←→: Select Screen
                                                      ↑ ↓: Select Item
                                                      EnterSelect
                                                      F1   General Help
                                                      F2   Previous Values
                                                      F3    Optimized
                                                      Defaults
                                                      F4    Save
                                                      ESC   Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 6: IDE Configuration

→ SATA Mode [AHCI]

Use the **SATA Mode** option to configure SATA devices.

→ **IDE** Configures SATA devices as normal IDE device.

→ **AHCI** DEFAULT Configures SATA devices as AHCI device.

6.3.5 USB Configuration

Use the **USB Configuration** menu (**BIOS Menu 7**) to read USB configuration information and configure the USB settings.

```
     Aptio Setup Utility – Copyright (C) 2009 American Megatrends, Inc.
         Advanced

USB Configuration                              Enables Legacy USB
                                               support. AUTO option
USB Devices:                                   disables legacy support
       1 Keyboard                              if no USB devices are
                                               connected. DISABLE
Legacy USB Support             [Enabled]       option will keep USB
                                               devices available only
                                               for EFI applications.

                                               --------------------
                                               ←→: Select Screen
                                               ↑ ↓: Select Item
                                               EnterSelect
                                               F1   General Help
                                               F2   Previous Values
                                               F3    Optimized
                                               Defaults
                                               F4    Save
                                               ESC   Exit
      Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 7: USB Configuration

➔ USB Devices

The **USB Devices Enabled** field lists the USB devices that are enabled on the system

➔ Legacy USB Support [Enabled]

Use the **Legacy USB Support** BIOS option to enable USB mouse and USB keyboard support. Normally if this option is not enabled, any attached USB mouse or USB keyboard does not become available until a USB compatible operating system is fully booted with all USB drivers loaded. When this option is enabled, any attached USB mouse or USB keyboard can control the system even when there is no USB driver loaded onto the system.

➔ **Disabled** Legacy USB support disabled

➔	**Enabled**	**DEFAULT**	Legacy USB support enabled
➔	**Auto**		Legacy USB support disabled if no USB devices are connected

6.3.6 F81866 Super IO Configuration

Use the **F81866 Super IO Configuration** menu (**BIOS Menu 8**) to set or change the configurations for the FDD controllers, parallel ports and serial ports.

```
        Aptio Setup Utility – Copyright (C) 2009 American Megatrends, Inc.
          Advanced

F81866 Super IO Configuration                        Set Parameters of Serial
                                                     Port 1 (COMA)
F81866 Super IO Chip             F81866
> Serial Port 1 Configuration
> Serial Port 2 Configuration                        ---------------------
> Serial Port 3 Configuration                        ←→: Select Screen
                                                     ↑ ↓: Select Item
                                                     EnterSelect
                                                     F1   General Help
                                                     F2   Previous Values
                                                     F3    Optimized
                                                     Defaults
                                                     F4    Save
                                                     ESC   Exit
        Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 8: Super IO Configuration

6.3.6.1 Serial Port n Configuration

Use the **Serial Port n Configuration** menu (**BIOS Menu 9**) to configure the serial port n.

```
    Aptio Setup Utility – Copyright (C) 2009 American Megatrends, Inc.
        Advanced

Serial Port 0 Configuration                        Enable or Disable Serial
                                                   Port (COM)
Serial Port                   [Enabled]
Device Settings               IO=3F8h; IRQ=4

Change Settings               [Auto]               ---------------------
                                                   ←→: Select Screen
                                                   ↑ ↓: Select Item
                                                   EnterSelect
                                                   F1   General Help
                                                   F2   Previous Values
                                                   F3    Optimized
                                                   Defaults
                                                   F4    Save
                                                   ESC   Exit
      Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 9: Serial Port n Configuration Menu

6.3.6.1.1 Serial Port 1 Configuration

➔ Serial Port [Enabled]

Use the **Serial Port** option to enable or disable the serial port.

➔ **Disabled** Disable the serial port

➔ **Enabled** **DEFAULT** Enable the serial port

➔ Change Settings [Auto]

Use the **Change Settings** option to change the serial port IO port address and interrupt address.

➔ **Auto** **DEFAULT** The serial port IO port address and interrupt address are automatically detected.

➔ **IO=3F8h; IRQ=4** Serial Port I/O port address is 3F8h and the interrupt address is IRQ4

→	**IO=3F8h; IRQ=3, 4**		Serial Port I/O port address is 3F8h and the interrupt address is IRQ3, 4
→	**IO=2F8h; IRQ=3, 4**		Serial Port I/O port address is 2F8h and the interrupt address is IRQ3, 4
→	**IO=3E8h; IRQ=3, 4**		Serial Port I/O port address is 3E8h and the interrupt address is IRQ3, 4
→	**IO=2E8h; IRQ=3, 4**		Serial Port I/O port address is 2E8h and the interrupt address is IRQ3, 4

6.3.6.1.2 Serial Port 2 Configuration

→ Serial Port [Enabled]

Use the **Serial Port** option to enable or disable the serial port.

→	**Disabled**		Disable the serial port
→	**Enabled**	**DEFAULT**	Enable the serial port

→ Change Settings [Auto]

Use the **Change Settings** option to change the serial port IO port address and interrupt address.

→	**Auto**	**DEFAULT**	The serial port IO port address and interrupt address are automatically detected.
→	**IO=2F8h; IRQ=3**		Serial Port I/O port address is 2F8h and the interrupt address is IRQ3
→	**IO=3F8h; IRQ=3, 4**		Serial Port I/O port address is 3F8h and the interrupt address is IRQ3, 4
→	**IO=2F8h; IRQ=3, 4**		Serial Port I/O port address is 2F8h and the interrupt address is IRQ3, 4
→	**IO=3E8h; IRQ=3, 4**		Serial Port I/O port address is 3E8h and the interrupt address is IRQ3, 4

- **IO=2E8h; IRQ=3, 4** — Serial Port I/O port address is 2E8h and the interrupt address is IRQ3, 4

6.3.6.1.3 Serial Port 3 Configuration

→ Serial Port [Enabled]

Use the **Serial Port** option to enable or disable the serial port.

- **Disabled** — Disable the serial port
- **Enabled** DEFAULT — Enable the serial port

→ Change Settings [Auto]

Use the **Change Settings** option to change the serial port IO port address and interrupt address.

- **Auto** DEFAULT — The serial port IO port address and interrupt address are automatically detected.
- **IO=3E8h; IRQ=10** — Serial Port I/O port address is 3E8h and the interrupt address is IRQ10
- **IO=3F8h; IRQ=10, 11** — Serial Port I/O port address is 3F8h and the interrupt address is IRQ10, 11
- **IO=2F8h; IRQ=10, 11** — Serial Port I/O port address is 2F8h and the interrupt address is IRQ10, 11
- **IO=3E8h; IRQ=10, 11** — Serial Port I/O port address is 3E8h and the interrupt address is IRQ10, 11
- **IO=2E8h; IRQ=10, 11** — Serial Port I/O port address is 2E8h and the interrupt address is IRQ10, 11
- **IO=250h; IRQ=10, 11** — Serial Port I/O port address is 250h and the interrupt address is IRQ10, 11
- **IO=2E0h; IRQ=10, 11** — Serial Port I/O port address is 2E0h and the interrupt address is IRQ10, 11

➔ Device Mode [RS422]

The **Device Mode** shows Serial Port 3 provides RS-422/485 communications.

➔ **RS422** **DEFAULT** Enables serial port RS422 support

➔ **RS485** Enables serial port RS485 support.

6.3.7 F81866 H/W Monitor

The H/W Monitor menu (**BIOS Menu 10**) shows the operating temperature, fan speeds and system voltages.

```
Aptio Setup Utility – Copyright (C) 2009 American Megatrends, Inc.
          Advanced

PC Health Status

CPU temperature                  :+44 C
System temperature               :+38 C
V_core                           :+1.048 V
VCC5                             :+4.940 V
Vcc12                            :+11.660 V       ---------------------
VDDR                             :+1.512 V        ←→: Select Screen
VSB5V                            :+5.016 V        ↑ ↓: Select Item
+V3.3S                           :+3.376 V        EnterSelect
VSB3V                            :+3.360 V        F1   General Help
VBAT                             :+3.312 V        F2   Previous Values
                                                  F3    Optimized
                                                  Defaults
                                                  F4    Save
                                                  ESC   Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 10: Hardware Health Configuration

➔ PC Health Status

The following system parameters and values are shown. The system parameters that are monitored are:

- System Temperatures:
  - CPU temperature
  - System temperature
- Voltages:

- V_core
- VCC5
- Vcc12
- VDDR
- VSB5V
- +V3.3S
- VSB3V
- VBAT

6.3.8 Serial Port Console Redirection

The **Serial Port Console Redirection** menu (**BIOS Menu 11**) allows the console redirection options to be configured. Console redirection allows users to maintain a system remotely by re-directing keyboard input and text output through the serial port.

```
     Aptio Setup Utility – Copyright (C) 2009 American Megatrends, Inc.
          Advanced

   COM1                                        Console Redirection
   Console Redirection          [Disabled]     Enable or Disable.
 > Console Redirection Settings
                                               ---------------------
   COM2                                        ←→: Select Screen
   Console Redirection          [Disabled]     ↑ ↓: Select Item
 > Console Redirection Settings                EnterSelect
                                               F1    General Help
                                               F2    Previous Values
                                               F3     Optimized
                                               Defaults
                                               F4     Save
                                               ESC    Exit
      Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 11: Serial Port Console Redirection

→ Console Redirection

Use **Console Redirection** option to enable or disable the console redirection function.

→ **Disabled** **DEFAULT** Disables the console redirection function.

→ **Enabled** Enabled the console redirection function.

6.3.8.1 Console Redirection Settings

The **Console Redirection Settings** menu (**BIOS Menu 12**) allows the console redirection options to be configured. The option is active when Console Redirection option is enabled.

```
    Aptio Setup Utility – Copyright (C) 2009 American Megatrends, Inc.
          Advanced

COM1                                         Emulation: ANSI:
Console Redirection Settings                 Extended ASCII char set.
                                             VT100: ASCII char set.
Terminal Type              [ANSI]            VT100+: Extends VT100 to
Bits per second            [115200]          support color, function
Data Bits                  [8]               keys, etc. VT-UTF8: Uses
Parity                     [None]            UTF8 encoding to map
Stop Bits                  [1]               Unicode chars onto 1 or
                                             more bytes.

                                             ---------------------
                                             ←→: Select Screen
                                             ↑ ↓: Select Item
                                             EnterSelect
                                             F1   General Help
                                             F2   Previous Values
                                             F3    Optimized
                                             Defaults
                                             F4    Save
                                             ESC   Exit
      Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 12: Console Redirection Settings

➔ Terminal Type [ANSI]

Use the **Terminal Type** option to specify the remote terminal type..

➔ **VT100** The target terminal type is VT100

➔ **VT100+** The target terminal type is VT100+

➔ **VT-UTF8** The target terminal type is VT-UTF8

➔ **ANSI** **DEFAULT** The target terminal type is ANSI

➔ Bits per second [115200]

Use the **Bits per second** option to specify the transmission speed of the serial port.

➔	**9600**		The transmission speed is 9600
➔	**19200**		The transmission speed is 19200
➔	**38400**		The transmission speed is 38400
➔	**57600**		The transmission speed is 57600
➔	**115200**	**DEFAULT**	The transmission speed is 115200

➔ Data Bits [8]

Use the **Data Bits** option to specify the number of data bits.

➔	**7**		Sets the data bits at 7.
➔	**8**	**DEFAULT**	Sets the data bits at 8.

➔ Parity [None]

Use the **Parity** option to specify the parity bit that can be sent with the data bits for detecting the transmission errors.

➔	**None**	**DEFAULT**	No parity bit is sent with the data bits.
➔	**Even**		The parity bit is 0 if the number of ones in the data bits is even.
➔	**Odd**		The parity bit is 0 if the number of ones in the data bits is odd.
➔	**Mark**		The parity bit is always 1. This option does not provide error detection.
➔	**Space**		The parity bit is always 0. This option does not provide error detection.

➔ Stop Bits [1]

Use the **Stop Bits** option to specify the number of stop bits used to indicate the end of a serial data packet. Communication with slow devices may require more than 1 stop bit.

➔ **1**	**DEFAULT**	Sets the number of stop bits at 1.
➔ **2**		Sets the number of stop bits at 2.

6.4 iEi Feature

Use the **iEi Feature** menu (**BIOS Menu 13**) to configure the auto recovery function.

```
Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
      Advanced

iEi Feature                                  | Auto Recovery Function
                                             | Reboot and recover
Auto Recovery Function      [Disabled]       | system automatically
                                             | within 10 min, when OS
                                             | crashes. Please install
                                             | Auto Recovery API
                                             | service before enabling
                                             | this function
                                             |
                                             | ---------------------
                                             | ←→: Select Screen
                                             | ↑ ↓: Select Item
                                             | EnterSelect
                                             | +/-:  Change Opt.
                                             | F1:   General Help
                                             | F2:   Previous Values
                                             | F3:   Optimized Defaults
                                             | F4:   Save & Exit
                                             | ESC:  Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 13: iEi Feature

➔ Auto Recovery Function [Disabled]

Use the **Auto Recovery Function** option to enable or disable auto recovery on the system.

➔ **Disabled**	**DEFAULT**	Auto Recovery Function support disabled
➔ **Enabled**		Auto Recovery Function support enabled

6.5 Chipset

Use the **Chipset** menu (**BIOS Menu 14**) to access the Host Bridge and South Bridge configuration menus

WARNING!

Setting the wrong values for the Chipset BIOS selections in the Chipset BIOS menu may cause the system to malfunction.

```
      Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
   Main     Advanced  Chipset     Boot     Security  Save & Exit

> Host Bridge                                        Host Bridge Parameters
> South Bridge

                                                     --------------------
                                                     ←→: Select Screen
                                                     ↑ ↓: Select Item
                                                     EnterSelect
                                                     +/-:  Change Opt.
                                                     F1    General Help
                                                     F2    Previous Values
                                                     F3    Optimized Defaults
                                                     F4    Save & Exit
                                                     ESC   Exit
        Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 14: Chipset

6.5.1 Host Bridge Configuration

Use the **Host Bridge Configuration** menu (**BIOS Menu 15**) to configure the Intel IGD settings.

```
     Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
                         Chipset
> Intel IGD Configuration                          Configure Intel IGD
                                                   Settings.
*******Memory Information*******
Memory Frequency                 800 MHz(DDR3)
Total Memory                     2048 MB
DIMM1                            2048 MB
                                                   ---------------------
                                                   ←→: Select Screen
                                                   ↑ ↓: Select Item
                                                   EnterSelect
                                                   +/-:  Change Opt.
                                                   F1:   General Help
                                                   F2:   Previous Values
                                                   F3:   Optimized Defaults
                                                   F4:   Save & Exit
                                                   ESC:  Exit
      Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 15: Northbridge Chipset Configuration

➔ Memory Information

The **Memory Information** lists a brief summary of the on-board memory. The fields in **Memory Information** cannot be changed.

6.5.1.1 Intel IGD Configuration

Use the **Intel IGD Configuration** menu (**BIOS Menu 16**) to configure the video device connected to the system.

```
Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
          Advanced

Intel IGD Configuration                            Auto disable IGD upon
IGFX - Boot Type                [VBIOS Default]    external GFX detected.
Fixed Graphics Memory Size      [128MB]
                                                   ---------------------
                                                   ←→: Select Screen
                                                   ↑ ↓: Select Item
                                                   EnterSelect
                                                   +/-:  Change Opt.
                                                   F1:   General Help
                                                   F2:   Previous Values
                                                   F3:   Optimized Defaults
                                                   F4:   Save & Exit
                                                   ESC:  Exit

Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 16: Integrated Graphics

➔ IGFX - Boot Type [VBIOS Default]

Use the **IGFX - Boot Type** option to select the display device used by the system when it boots. For dual display support, select "VBIOS Deafult." Configuration options are listed below.

- VBIOS Default **DEFAULT**
- CRT
- HDMI
- CRT + HDMI

➔ Fixed Graphics Memory Size [128 MB]

Use the **Fixed Graphics Memory Size** option to specify the amount of memory that can be allocated as graphics memory. Configuration options are listed below.

- 128 MB **DEFAULT**
- 256 MB

6.5.2 Southbridge Configuration

Use the **Southbridge Configuration** menu (**BIOS Menu 17**) to configure the Southbridge chipset.

```
   Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
                        Chipset

Auto Power Button Status         [Enabled]



                                              ---------------------
                                              ←→: Select Screen
                                              ↑ ↓: Select Item
                                              EnterSelect
                                              +/-:  Change Opt.
                                              F1:   General Help
                                              F2:   Previous Values
                                              F3:   Optimized Defaults
                                              F4:   Save & Exit
                                              ESC:  Exit
      Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 17: Southbridge Chipset Configuration

6.6 Boot

Use the **Boot** menu (**BIOS Menu 18**) to configure system boot options.

```
   Aptio Setup Utility – Copyright (C) 2009 American Megatrends, Inc.
  Main    Advanced   Chipset     Boot     Security   Save & Exit

Boot Configuration                            Select the keyboard
Bootup NumLock State          [On]            NumLock state
Quiet Boot                    [Enabled]
Launch PXE OpROM              [Disabled]
Option ROM Messages           [Force BIOS]    ---------------------
UEFI Boot                     [Disabled]      ←→: Select Screen
                                              ↑ ↓: Select Item
Boot Option Priorities                        EnterSelect
Boot Option #1                [SATA PM: Hitachi…]  F1    General Help
                                              F2    Previous Values
Hard Drive BBS Prioties                       F3     Optimized
                                              Defaults
                                              F4     Save
                                              ESC    Exit
      Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 18: Boot

➔ Bootup NumLock State [On]

Use the **Bootup NumLock State** BIOS option to specify if the number lock setting must be modified during boot up.

- **Off** — Does not enable the keyboard Number Lock automatically. To use the 10-keys on the keyboard, press the Number Lock key located on the upper left-hand corner of the 10-key pad. The Number Lock LED on the keyboard lights up when the Number Lock is engaged.
- **On** **DEFAULT** — Allows the Number Lock on the keyboard to be enabled automatically when the computer system boots up. This allows the immediate use of the 10-key numeric keypad located on the right side of the keyboard. To confirm this, the Number Lock LED light on the keyboard is lit.

Quiet Boot [Enabled]

Use the **Quiet Boot** BIOS option to select the screen display when the system boots.

- **Disabled** — Normal POST messages displayed
- **Enabled** **DEFAULT** — OEM Logo displayed instead of POST messages

Launch PXE OpROM [Disabled]

Use the **Launch PXE OpROM** BIOS option to enable or disable boot option for legacy network devices.

- **Disabled** **DEFAULT** — Cannot be booted from the legacy network devices.
- **Enabled** — Can be booted from the legacy network devices.

Option ROM Messages [Force BIOS]

Use the **Option ROM Messages** option to allow add-on ROM (read-only memory) messages to be displayed.

- **Force BIOS** **DEFAULT** — The system forces third party BIOS to display during system boot.
- **Keep Current** — The system displays normal information during system boot.

→ UEFI Boot [Disabled]

Use the **UEFI Boot** option to enable or disable to boot from the UEFI devices.

→ **Enabled** Boot from UEFI devices is enabled.

→ **Disabled** **DEFAULT** Boot from UEFI devices is disabled.

→ Boot Option Priority

Use the **Boot Option Priority** function to set the system boot sequence from the available devices. The drive sequence also depends on the boot sequence in the individual device section.

→ Hard Drive BBS Priorities

Use **Hard Drive BBS Priorities** option to set the system boot order.

6.7 Security

Use the **Security** menu (**BIOS Menu 19**) to set system and user passwords.

```
      Aptio Setup Utility – Copyright (C) 2009 American Megatrends, Inc.
   Main     Advanced   Chipset     Boot     Security   Save & Exit

 Password Description                                 Set Administrator
                                                      Password
 If ONLY the Administrator’s password is set,
 then this only limits access to Setup and is
 only asked for when entering Setup.                  --------------------
 If ONLY the User’s password is set, then this        ←→: Select Screen
 is a power on password and must be entered to        ↑ ↓: Select Item
 boot or enter Setup. In Setup the User will          EnterSelect
 have Administrator rights.                           F1   General Help
 The password length must be                          F2   Previous Values
 in the following range:                              F3    Optimized
 Minimum length                  3                    Defaults
 Maximum length                  20                   F4    Save
                                                      ESC   Exit

 Administrator Password
 User Password

 HDD Security Configuration
 HDD0:Hitachi HTS5

      Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 19: Security

➔ Administrator Password

Use the **Administrator Password** to set or change a administrator password.

➔ User Password

Use the **User Password** to set or change a user password.

6.7.1 HDD Security Configuration

Use the **HDD Security Configuration** submenu (**BIOS Menu 20**) to set HDD password.

```
      Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
  Main    Advanced   Chipset     Boot     Security  Save & Exit

HDD Password Description:                             Set HDD User Password.
                                                      *** Advisable to Power
Allows Access to Set, Modify, and Clear               Cycle System after
Hard Disk User and Master Passwords.                  Settig Hard Disk
User Password need to be installed for                Passwords ***
Enabling Security. Master Password can
be Modified only when successfully unlocked
with Master Password in POST.

HDD PASSWORD CONFIGURATION:                           --------------------
                                                      ←→: Select Screen
Security Supported :           Yes                    ↑ ↓: Select Item
Security Enabled :             No                     EnterSelect
Security Locked :              No                     +/-: Change Opt.
Security Frozen :              No                     F1:  General Help
HDD User Pwd Status :          NOT INSTALLED          F2:  Previous Values
HDD Master Pwd Status:         INSTALLED              F3:  Optimized Defaults
                                                      F4:  Save & Exit
Set User Password                                     ESC: Exit

      Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 20: Security

➔ Set User Password

Use the **Set User Password** field to set or change an HDD user password.

NOTE:

It is recommended that the system be reset after setting a new HDD password.

6.8 Save & Exit

Use the **Save & Exit** menu (**BIOS Menu 21**) to load default BIOS values, optimal failsafe values and to save configuration changes.

```
    Aptio Setup Utility – Copyright (C) 2009 American Megatrends, Inc.
 Main     Advanced   Chipset     Boot     Security  Save & Exit

  Save Changes and Reset                       Reset the system after
  Discard Changes and Reset                    saving the changes.

  Restore Defaults
  Save as User Defaults
  Restore User Defaults

                                               ---------------------
                                               ←→: Select Screen
                                               ↑ ↓: Select Item
                                               EnterSelect
                                               F1    General Help
                                               F2    Previous Values
                                               F3     Optimized
                                               Defaults
                                               F4     Save
                                               ESC    Exit
      Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 21:Exit

➔ Save Changes and Reset

Use the **Save Changes and Reset** option to save the changes made to the BIOS options and to exit the BIOS configuration setup program.

➔ Discard Changes and Reset

Use the **Discard Changes and Reset** option to exit the system without saving the changes made to the BIOS configuration setup program.

➔ Restore Defaults

Use the **Restore Defaults** option to load the optimal default values for each of the parameters on the Setup menus. **F3 key can be used for this operation.**

➔ Save as User Defaults

Use the **Save as User Defaults** option to save the changes done so far as user defaults.

➔ Restore User Defaults

Use the **Restore User Defaults** option to restore the user defaults to all the setup options.

Chapter

5

Software Drivers

7.1 Available Software Drivers

NOTE:

The content of the CD may vary throughout the life cycle of the product and is subject to change without prior notice. Visit the IEI website or contact technical support for the latest updates.

The following drivers can be installed on the system:

- Chipset
- Graphic
- Audio
- LAN

Installation instructions are given below.

7.2 Starting the Driver Program

To access the driver installation programs, please do the following.

Step 1: Insert the CD-ROM that came with the system into a CD-ROM drive attached to the system.

Step 2: Click **uIBX-210-CV-N2600 Driver**.

Step 3: A list of available drivers appears.

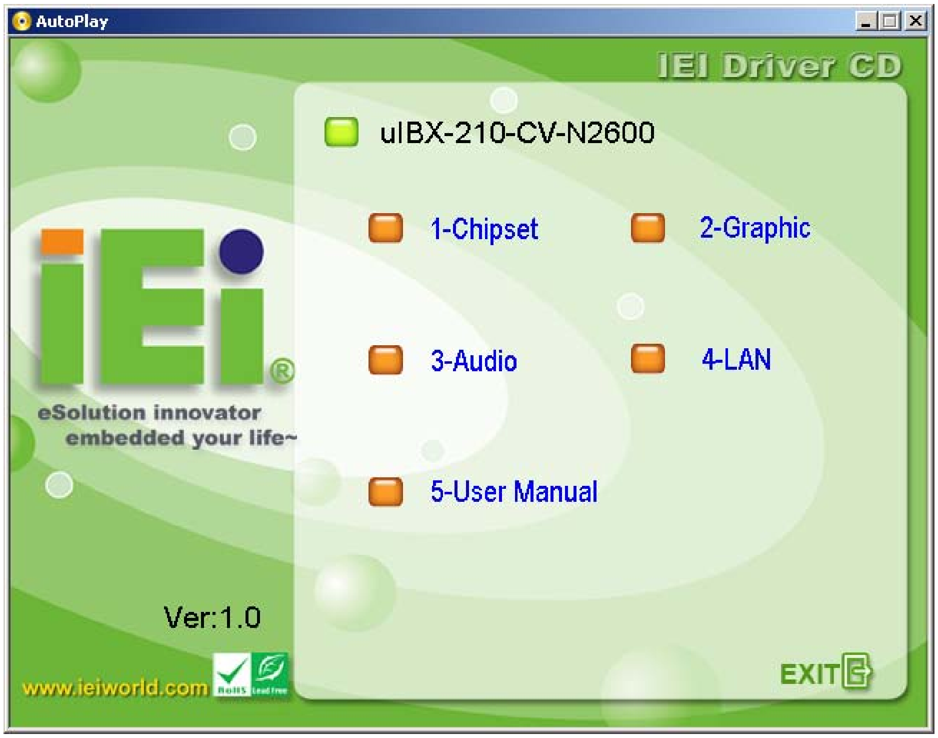


Figure 7-1: Drivers

7.3 Chipset Driver Installation

To install the chipset driver, please do the following.

Step 1: Access the driver list. (See **Section 7.2**)

Step 2: Click “**1-Chipset**”

Step 3: Locate the setup file and double click on it.

Step 4: The setup files are extracted as shown in **Figure 7-2**.

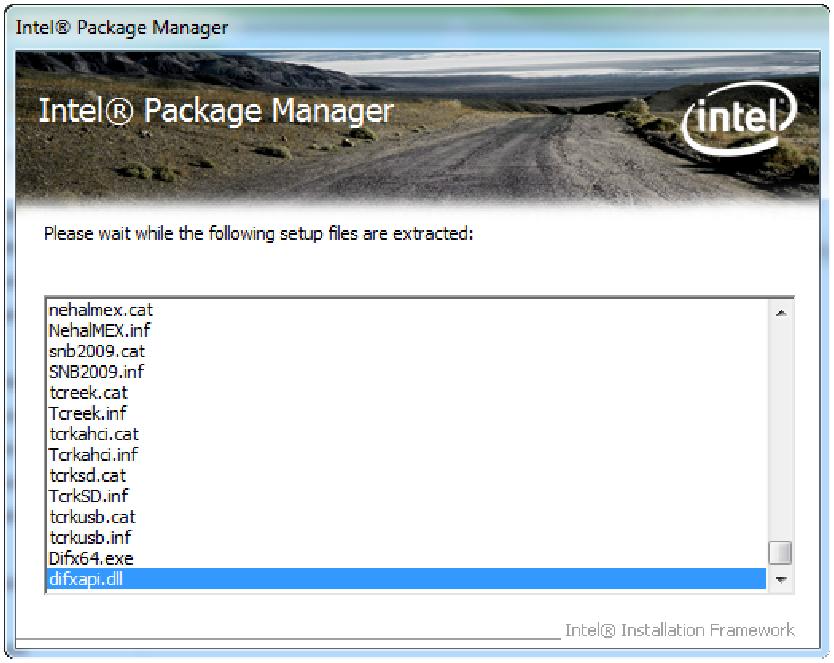


Figure 7-2: Chipset Driver Screen

Step 5: When the setup files are completely extracted, the **Welcome Screen** in **Figure 7-3** appears.

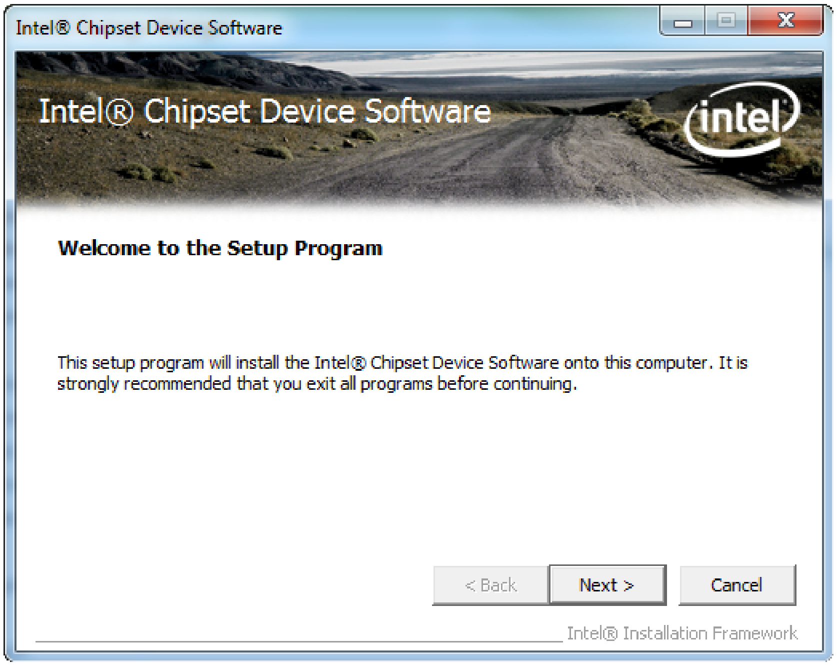


Figure 7-3: Chipset Driver Welcome Screen

Step 6: Click **Next** to continue.

Step 7: The license agreement in **Figure 7-4** appears.

Step 8: Read the **License Agreement**.

Step 9: Click **Yes** to continue.

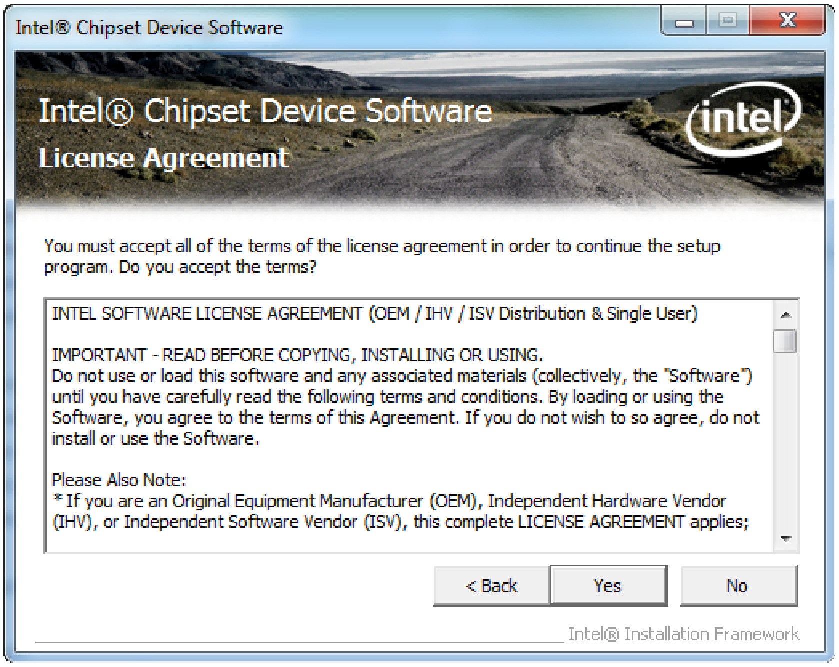


Figure 7-4: Chipset Driver License Agreement

Step 10: The Read Me file in **Figure 7-5** appears.

Step 11: Click **Next** to continue.

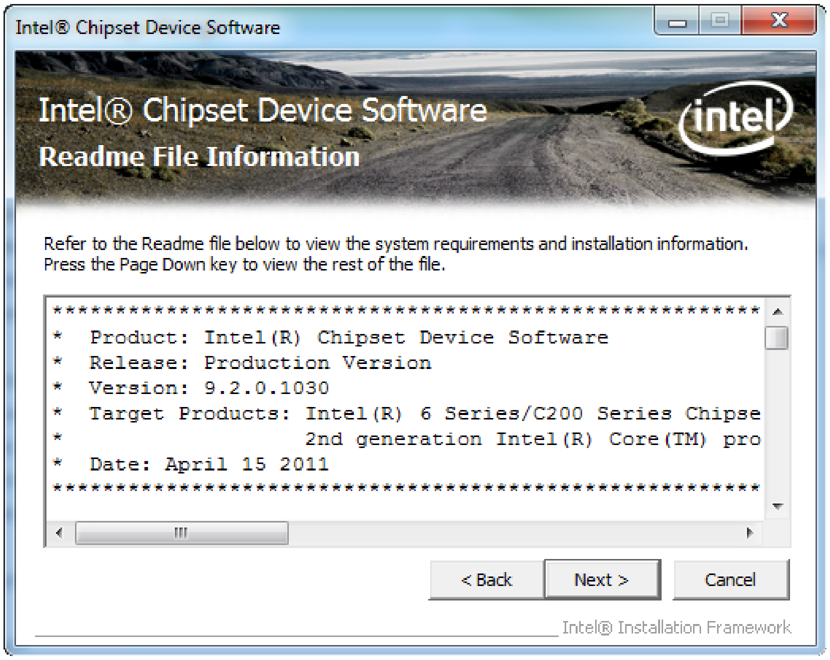


Figure 7-5: Chipset Driver Read Me File

Step 12: Once the **Setup Operations** are complete, the **Finish** screen appears.

Step 13: Click **Finish** to complete installation.



Figure 7-6: Chipset Driver Installation Finish Screen

7.4 Graphic Driver Installation

To install the VGA driver, please do the following.

Step 1: Access the driver list. (See **Section 7.2**)

Step 2: Click "**2-Graphic**"

Step 3: Locate the setup file and double click on it.

Step 4: The **Welcome Screen** in **Figure 7-7** appears.

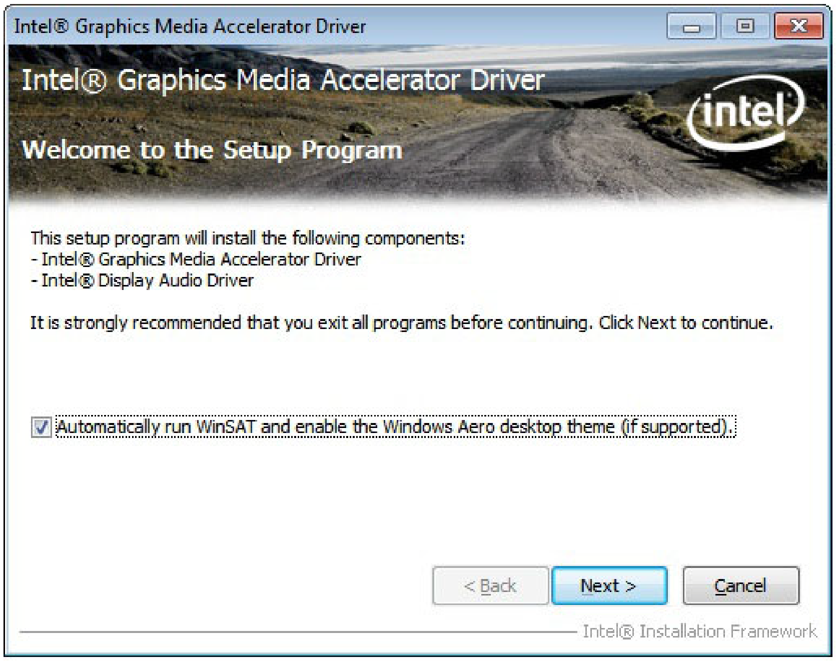


Figure 7-7: VGA Driver Welcome Screen

Step 5: Click **Next** to continue.

Step 6: The license agreement in **Figure 7-8** appears.

Step 7: Read the **License Agreement**.

Step 8: Click **Yes** to continue.



Figure 7-8: VGA Driver License Agreement

Step 9: The Read Me file in **Figure 7-9** appears.

Step 10: Click **Next** to continue.



Figure 7-9: VGA Driver Read Me File

Step 11: **Setup Operations** are performed as shown in **Figure 7-10**.

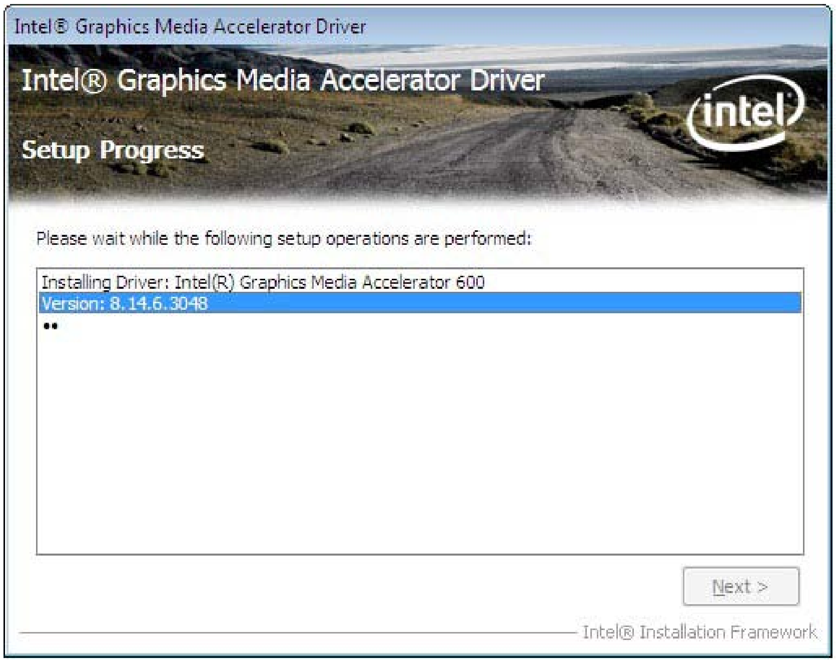


Figure 7-10: VGA Driver Setup Operations

Step 12: Once the **Setup Operations** are complete, click the **Next** icon to continue.

Step 13: The **Finish** screen appears.

Step 14: Select "**Yes, I want to restart the computer now**" and click the **Finish** icon. See **Figure 7-11**.

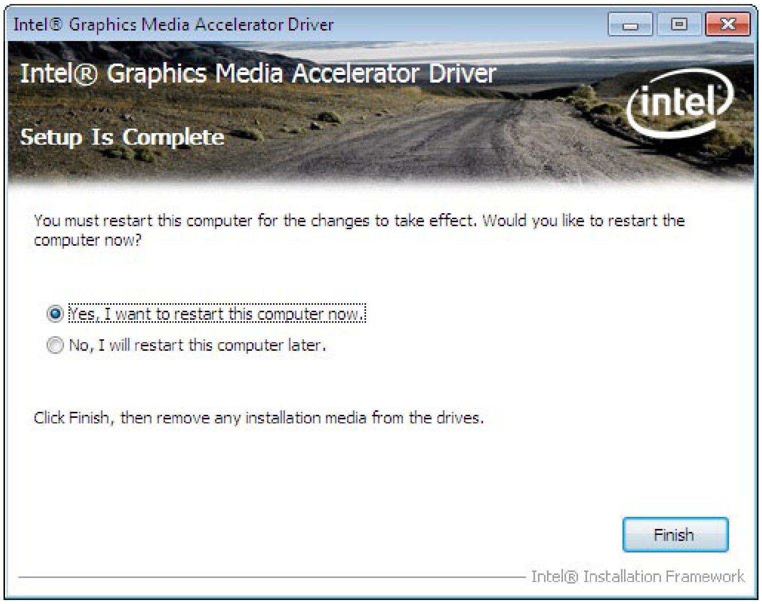


Figure 7-11: VGA Driver Installation Finish Screen

7.5 LAN Driver Installation

Step 1: Right-click the Computer button from the start menu and select **Properties**. (**Figure 7-12**).

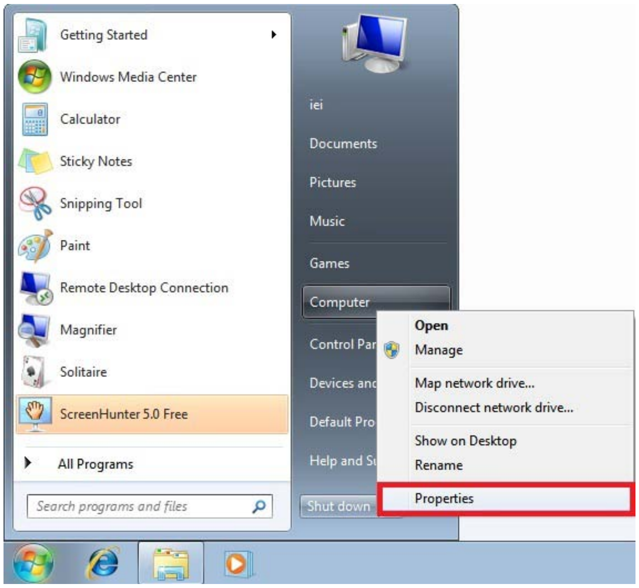


Figure 7-12: Windows Control Panel

Step 2: The system control panel window in **Figure 7-13** appears.

Step 3: Click the Device Manager link (**Figure 7-13**).

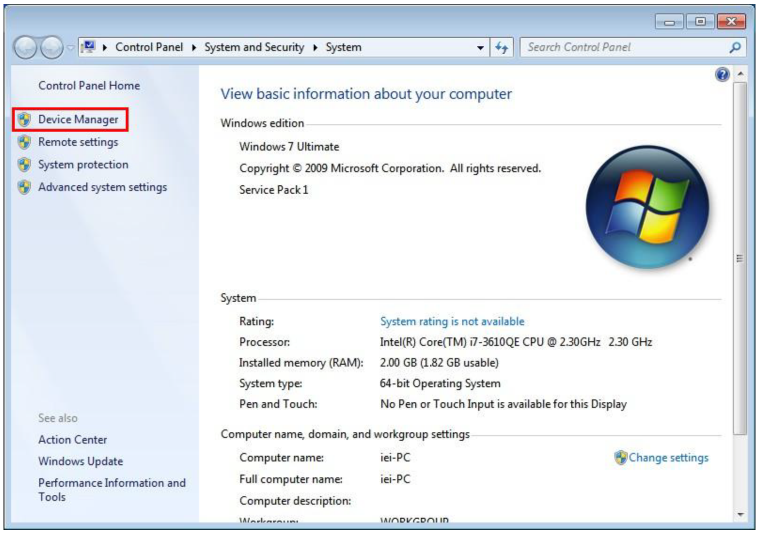


Figure 7-13: System Control Panel

Step 4: A list of system hardware devices appears (**Figure 7-14**).

Step 5: Right-click the Ethernet Controller that has question marks next to it (this means Windows does not recognize the device).

Step 6: Select **Update Driver Software**.

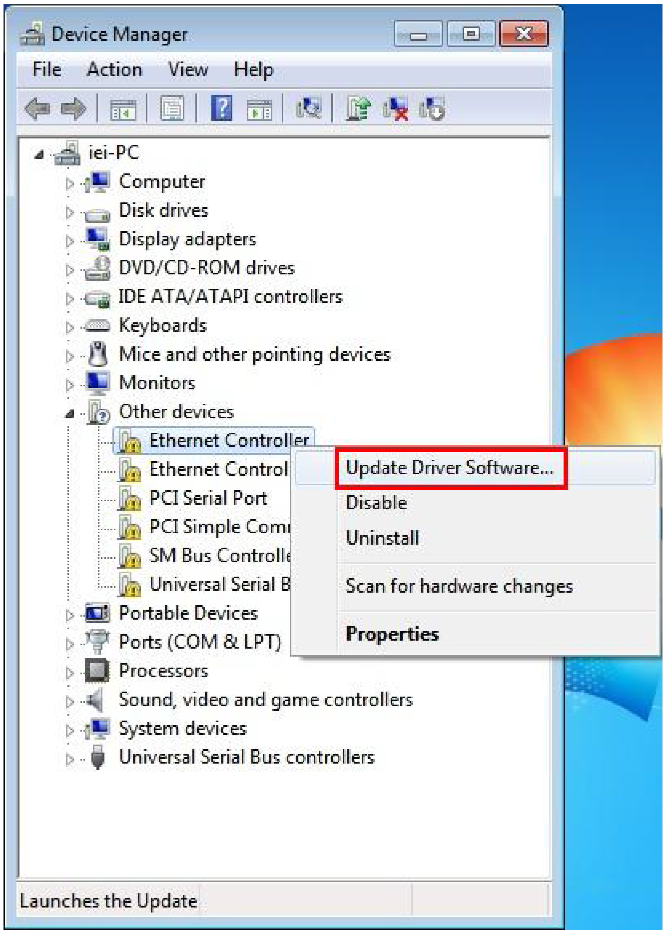


Figure 7-14: Device Manager List

Step 7: The Update Driver Software Window appears (**Figure 7-15**).

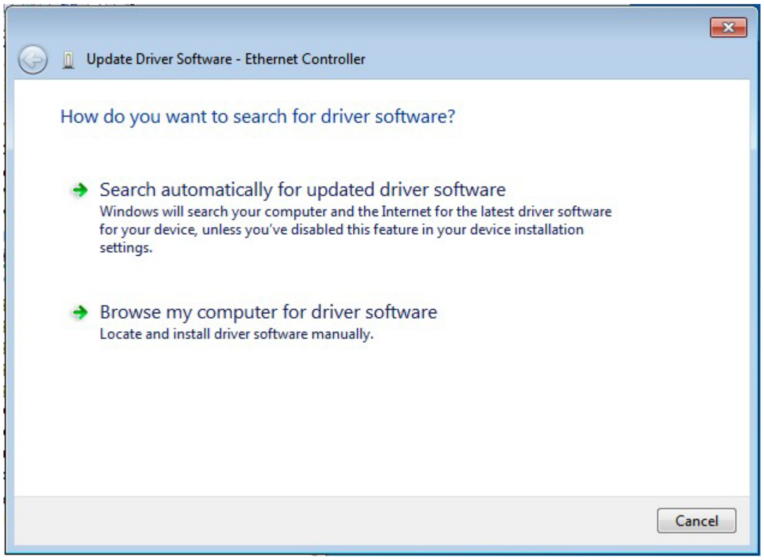


Figure 7-15: Update Driver Software Window

Step 8: Select “Browse my computer for driver software” and click **BROWSE** to select the driver location (**Figure 7-16**).

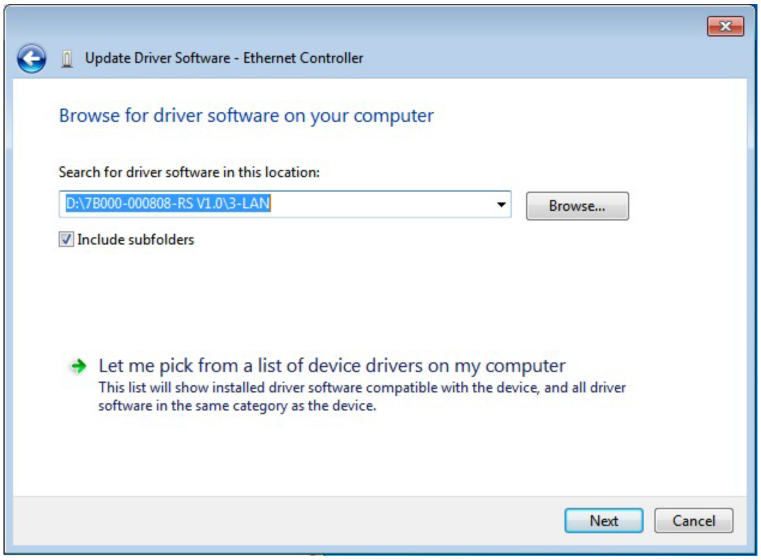


Figure 7-16: Locate Driver Files

Step 9: Click **NEXT** to continue.

Step 10: Driver Installation is performed as shown in **Figure 7-17**.

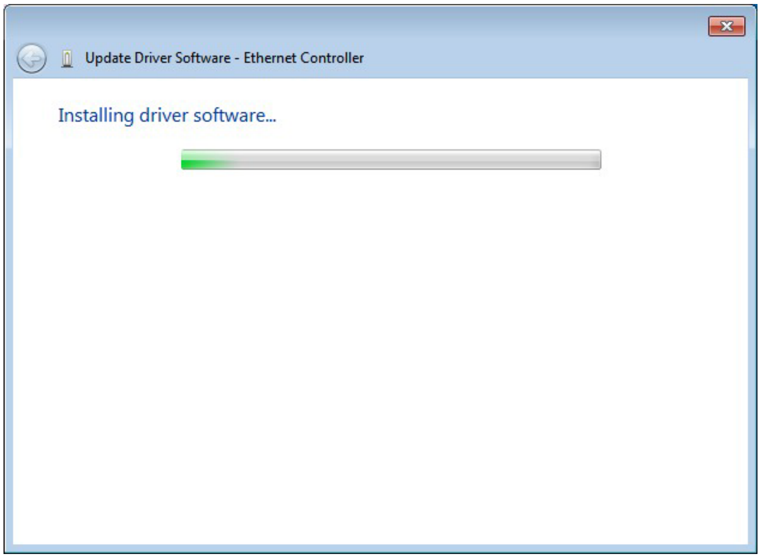


Figure 7-17: LAN Driver Installation

Step 11: The **Finish** screen in **Figure 7-18** appears. Click **Close** to exit.

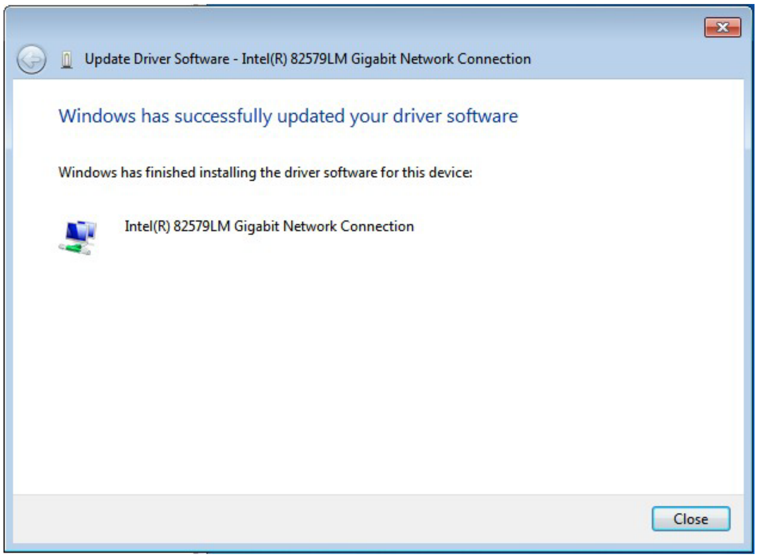


Figure 7-18: LAN Driver Installation Complete

7.6 Audio Driver Installation

To install the audio driver, please do the following.

Step 1: Access the driver list. (See **Section 7.2**)

Step 2: Click “**Audio**” and select the folder which corresponds to your operating system.

Step 3: Double click the setup file.

Step 4: The **Audio Driver Welcome Screen** in **Figure 7-19** appears.

Step 5: Click **Next** to continue.

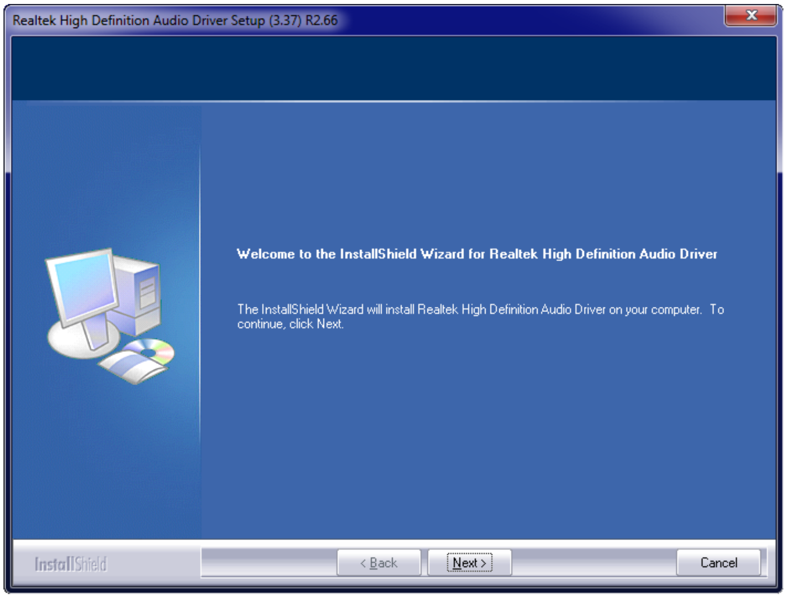


Figure 7-19: Audio Driver Welcome Screen

Step 6: The audio driver installation begins. See **Figure 7-20**.

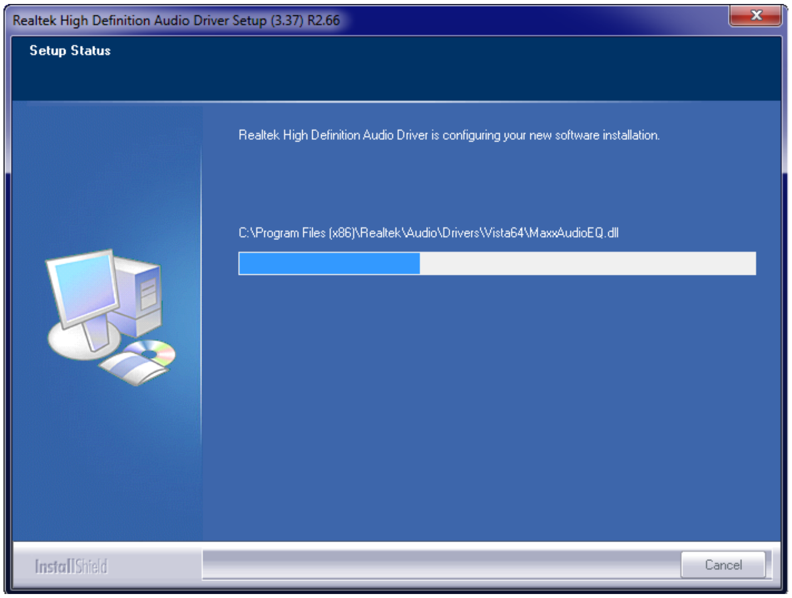


Figure 7-20: Audio Driver Installation

Step 7: When the installation is complete, the screen in **Figure 7-21** appears.

Step 8: Select "**Yes, I want to restart my computer now**" and click **Finish**.

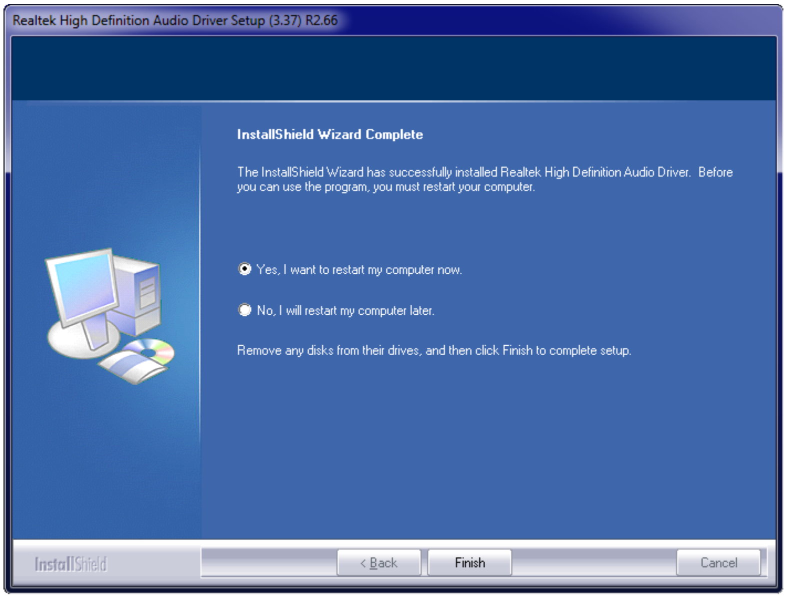


Figure 7-21: Audio Driver Installation Complete

Appendix

A

Safety Precautions

WARNING:

The precautions outlined in this chapter should be strictly followed. Failure to follow these precautions may result in permanent damage to the uIBX-210-CV-N2600.

A.1 Safety Precautions

Please follow the safety precautions outlined in the sections that follow:

A.1.1 General Safety Precautions

Please ensure the following safety precautions are adhered to at all times.

- ***Follow the electrostatic precautions*** outlined below whenever the uIBX-210-CV-N2600 is opened.
- ***Make sure the power is turned off and the power cord is disconnected*** whenever the uIBX-210-CV-N2600 is being installed, moved or modified.
- ***Do not apply voltage levels that exceed the specified voltage range***. Doing so may cause fire and/or an electrical shock.
- ***Electric shocks can occur*** if the uIBX-210-CV-N2600 chassis is opened when the uIBX-210-CV-N2600 is running.
- ***Do not drop or insert any objects*** into the ventilation openings of the uIBX-210-CV-N2600.
- ***If considerable amounts of dust, water, or fluids enter the uIBX-210-CV-N2600***, turn off the power supply immediately, unplug the power cord, and contact the uIBX-210-CV-N2600 vendor.
- **DO NOT**:
    - Drop the uIBX-210-CV-N2600 against a hard surface.
    - Strike or exert excessive force onto the LCD panel.
    - Touch any of the LCD panels with a sharp object
    - In a site where the ambient temperature exceeds the rated temperature

A.1.2 Anti-static Precautions

WARNING:

Failure to take ESD precautions during the installation of the uIBX-210-CV-N2600 may result in permanent damage to the uIBX-210-CV-N2600 and severe injury to the user.

Electrostatic discharge (ESD) can cause serious damage to electronic components, including the uIBX-210-CV-N2600. Dry climates are especially susceptible to ESD. It is therefore critical that whenever the uIBX-210-CV-N2600 is opened and any of the electrical components are handled, the following anti-static precautions are strictly adhered to.

- ***Wear an anti-static wristband***: Wearing a simple anti-static wristband can help to prevent ESD from damaging any electrical component.
- ***Self-grounding***: Before handling any electrical component, touch any grounded conducting material. During the time the electrical component is handled, frequently touch any conducting materials that are connected to the ground.
- ***Use an anti-static pad***: When configuring or working with an electrical component, place it on an antic-static pad. This reduces the possibility of ESD damage.
- ***Only handle the edges of the electrical component***: When handling the electrical component, hold the electrical component by its edges.

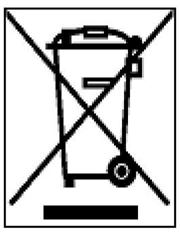
A.1.3 Product Disposal

CAUTION:

Risk of explosion if battery is replaced by and incorrect type. Only certified engineers should replace the on-board battery.

Dispose of used batteries according to instructions and local regulations.

- Outside the European Union - If you wish to dispose of used electrical and electronic products outside the European Union, please contact your local authority so as to comply with the correct disposal method.
- Within the European Union:



EU-wide legislation, as implemented in each Member State, requires that waste electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes monitors and electrical accessories, such as signal cables or power cords. When you need to dispose of your display products, please follow the guidance of your local authority, or ask the shop where you purchased the product. The mark on electrical and electronic products only applies to the current European Union Member States.

Please follow the national guidelines for electrical and electronic product disposal.

A.2 Maintenance and Cleaning Precautions

When maintaining or cleaning the uIBX-210-CV-N2600, please follow the guidelines below.

A.2.1 Maintenance and Cleaning

Prior to cleaning any part or component of the uIBX-210-CV-N2600, please read the details below.

- The interior of the uIBX-210-CV-N2600X does not require cleaning. Keep fluids away from the uIBX-210-CV-N2600 interior.
- Be cautious of all small removable components when vacuuming the uIBX-210-CV-N2600.
- Turn the uIBX-210-CV-N2600 off before cleaning the uIBX-210-CV-N2600.
- Never drop any objects or liquids through the openings of the uIBX-210-CV-N2600.
- Be cautious of any possible allergic reactions to solvents or chemicals used when cleaning the uIBX-210-CV-N2600.
- Avoid eating, drinking and smoking within vicinity of the uIBX-210-CV-N2600.

A.2.2 Cleaning Tools

Some components in the uIBX-210-CV-N2600 may only be cleaned using a product specifically designed for the purpose. In such case, the product will be explicitly mentioned in the cleaning tips. Below is a list of items to use when cleaning the uIBX-210-CV-N2600.

- ***Cloth*** – Although paper towels or tissues can be used, a soft, clean piece of cloth is recommended when cleaning the uIBX-210-CV-N2600.
- ***Water or rubbing alcohol*** – A cloth moistened with water or rubbing alcohol can be used to clean the LuIBX-210-CV-N2600.
- ***Using solvents*** – The use of solvents is not recommended when cleaning the LuIBX-210-CV-N2600 as they may damage the plastic parts.
- ***Vacuum cleaner*** – Using a vacuum specifically designed for computers is one of the best methods of cleaning the uIBX-210-CV-N2600. Dust and dirt can restrict the airflow in the uIBX-210-CV-N2600 and cause its circuitry to corrode.
- ***Cotton swabs*** - Cotton swaps moistened with rubbing alcohol or water are excellent tools for wiping hard to reach areas.
- ***Foam swabs*** - Whenever possible, it is best to use lint free swabs such as foam swabs for cleaning.

Appendix

B

BIOS Menu Options

Appendix

C

One Key Recovery

C.1 One Key Recovery Introduction

The IEI one key recovery is an easy-to-use front end for the Norton Ghost system backup and recovery tool. This tool provides quick and easy shortcuts for creating a backup and reverting to that backup or reverting to the factory default settings.

NOTE:

The latest One Key Recovery software provides an auto recovery function that allows a system running Microsoft Windows OS to automatically restore from the factory default image after encountering a Blue Screen of Death (BSoD) or a hang for around 10 minutes. Please refer to Section C.3 for the detailed setup procedure.

The IEI One Key Recovery tool menu is shown below.

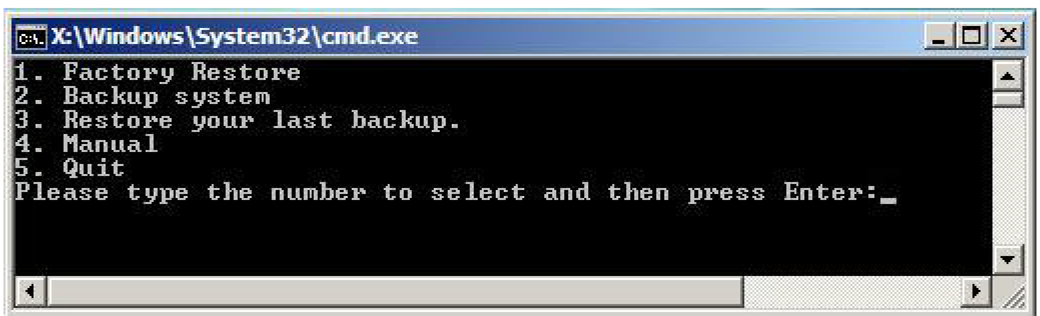


Figure C-1: IEI One Key Recovery Tool Menu

Prior to using the IEI One Key Recovery tool (as shown in **Figure C-1**) to backup or restore Windows system, five setup procedures are required.

1. Hardware and BIOS setup (see **Section C.2.1**)
2. Create partitions (see **Section C.2.2**)
3. Install operating system, drivers and system applications (see **Section C.2.3**)
4. Build the recovery partition (see **Section C.2.4**)
5. Create factory default image (see **Section C.2.5**)

After completing the five initial setup procedures as described above, users can access the recovery tool by pressing <**F3**> while booting up the system. The detailed information of each function is described in **Section C.5**.

NOTE:

The initial setup procedures for Linux system are described in **Section C.3**.

C.1.1 System Requirement

NOTE:

The recovery CD can only be used with IEI products. The software will fail to run and a warning message will appear when used on non-IEI hardware.



To create the system backup, the main storage device must be split into two partitions (three partitions for Linux). The first partition will be for the operating system, while the second partition will be invisible to the operating system and contain the backup made by the one key recovery software.

The partition created for recovery images must be big enough to contain both the factory default image and the user backup image. The size must be calculated before creating the

partitions. Please take the following table as a reference when calculating the size of the partition.

	OS	OS Image after Ghost	Compression Ratio
Windows® 7	7 GB	5 GB	70%
Windows® XPE	776 MB	560 MB	70%
Windows® CE 6.0	36 MB	28 MB	77%

NOTE:

Specialized tools are required to change the partition size if the operating system is already installed.

C.1.2 Supported Operating System

The recovery CD is compatible with both Microsoft Windows and Linux operating systems (OS). The supported OS versions are listed below.

- Microsoft Windows
  - Windows XP (Service Pack 2 or 3 required)
  - Windows Vista
  - Windows 7
  - Windows CE 5.0
  - Windows CE 6.0
  - Windows XP Embedded
- Linux
  - Fedora Core 12 (Constantine)
  - Fedora Core 11 (Leonidas)
  - Fedora Core 10 (Cambridge)
  - Fedora Core 8 (Werewolf)
  - Fedora Core 7 (Moonshine)
  - RedHat RHEL-5.4
  - RedHat 9 (Ghirke)

- Ubuntu 8.10 (Intrepid)
- Ubuntu 7.10 (Gutsy)
- Ubuntu 6.10 (Edgy)
- Debian 5.0 (Lenny)
- Debian 4.0 (Etch)
- SuSe 11.2
- SuSe 10.3

NOTE:

Installing unsupported OS versions may cause the recovery tool to fail.

C.2 Setup Procedure for Windows

Prior to using the recovery tool to backup or restore, a few setup procedures are required.

Step 1: Hardware and BIOS setup (see **Section C.2.1**)

Step 2: Create partitions (see **Section C.2.2**)

Step 3: Install operating system, drivers and system applications (see **Section C.2.3**)

Step 4: Build the recovery partition (see **Section C.2.4**) or build the auto recovery partition (see **Section C.3**)

Step 5: Create factory default image (see **Section C.2.5**)

The detailed descriptions are described in the following sections.

NOTE:

The setup procedures described below are for Microsoft Windows operating system users. For Linux, most of the setup procedures are the same except for several steps described in **Section C.3**.

C.2.1 Hardware and BIOS Setup

Step 1: Make sure the system is powered off and unplugged.

Step 2: Install a hard drive or SSD in the system. An unformatted and unpartitioned disk is recommended.

Step 3: Connect an optical disk drive to the system and insert the recovery CD.

Step 4: Turn on the system.

Step 5: Press the <**DELETE**> key as soon as the system is turned on to enter the BIOS.

Step 6: Select the connected optical disk drive as the 1st boot device. (**Boot → Boot Device Priority → 1st Boot Device**).

Step 7: Save changes and restart the computer. Continue to the next section for instructions on partitioning the internal storage.

C.2.2 Create Partitions

To create the system backup, the main storage device must be split into two partitions (three partitions for Linux). The first partition will be for the operating system, while the second partition will be invisible to the operating system and contain the backup made by the one key recovery software.

Step 1: Put the recovery CD in the optical drive of the system.

Step 2: **Boot the system from recovery CD**. When prompted, press any key to boot from the recovery CD. It will take a while to launch the recovery tool. Please be patient!

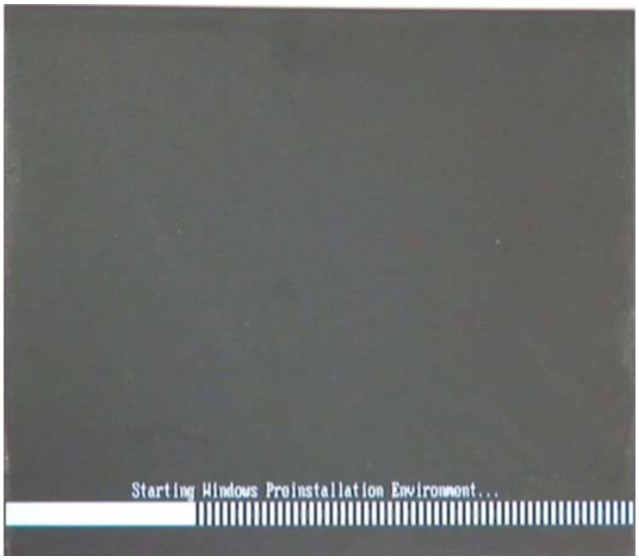


Figure C-2: Launching the Recovery Tool

Step 3: The recovery tool setup menu is shown as below.

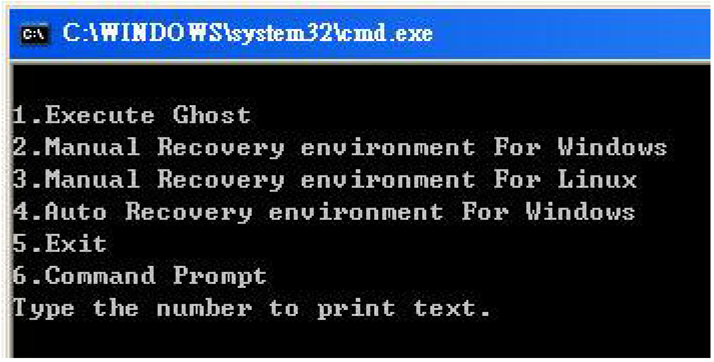


Figure C-3: Recovery Tool Setup Menu

Step 4: Press <**6**> then <Enter>.

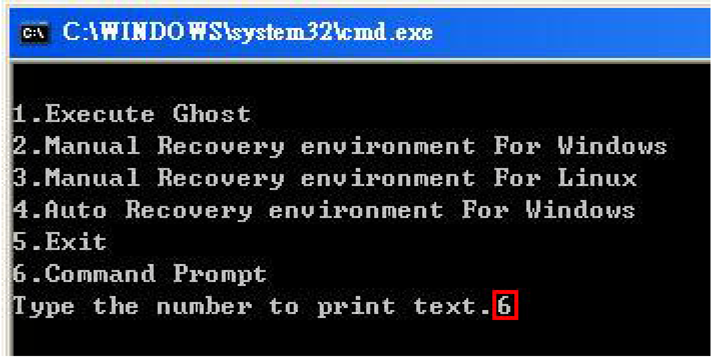


Figure C-4: Command Prompt

Step 5: The command prompt window appears. Type the following commands (marked in red) to create two partitions. One is for the OS installation; the other is for saving recovery files and images which will be an invisible partition.

(Press <Enter> after entering each line below)

system32>diskpart

DISKPART>list vol

DISKPART>sel disk 0

DISKPART>create part pri size= ___

DISKPART>assign letter=N

DISKPART>create part pri size= ___

DISKPART>assign letter=F

DISKPART>exit

system32>format N: /fs:ntfs /q /y

system32>format F: /fs:ntfs /q /v:Recovery /y

system32>exit

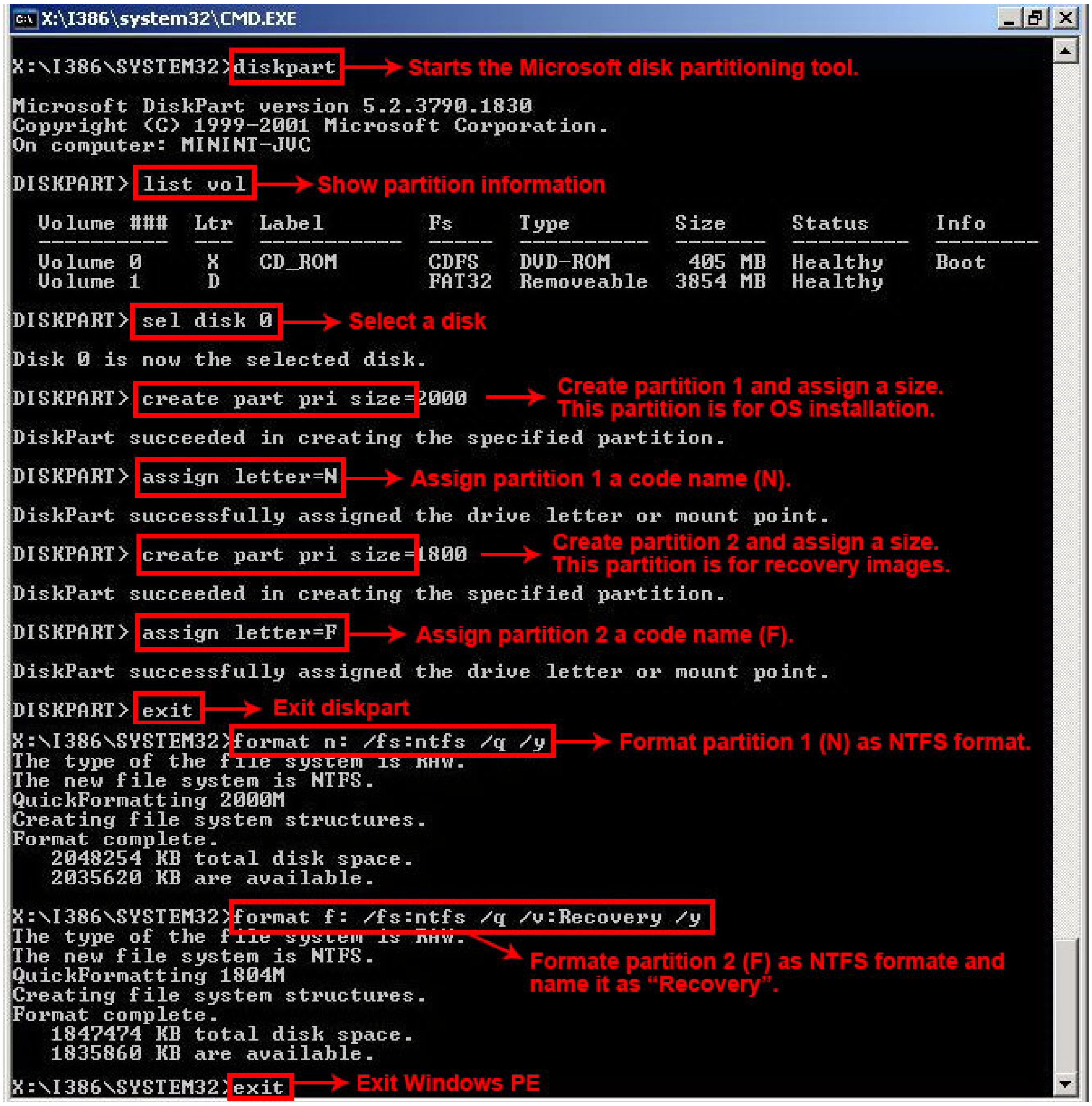
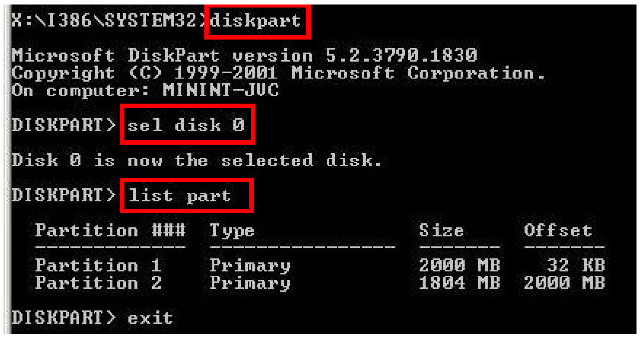


Figure C-5: Partition Creation Commands

NOTE:

Use the following commands to check if the partitions were created successfully.



```
X:\I386\SYSTEM32>diskpart

Microsoft DiskPart version 5.2.3790.1830
Copyright (C) 1999-2001 Microsoft Corporation.
On computer: MININT-JVC

DISKPART> sel disk 0

Disk 0 is now the selected disk.

DISKPART> list part

  Partition ###  Type              Size     Offset
  -------------  ----------------  -------  -------
  Partition 1    Primary           2000 MB    32 KB
  Partition 2    Primary           1804 MB  2000 MB

DISKPART> exit
```

Step 6: Press any key to exit the recovery tool and automatically reboot the system. Please continue to the following procedure: Build the Recovery Partition.

C.2.3 Install Operating System, Drivers and Applications

Install the operating system onto the unlabelled partition. The partition labeled "Recovery" is for use by the system recovery tool and should not be used for installing the operating system or any applications.

NOTE:

The operating system installation program may offer to reformat the chosen partition. DO NOT format the partition again. The partition has already been formatted and is ready for installing the new operating system.

To install the operating system, insert the operating system installation CD into the optical drive. Restart the computer and follow the installation instructions.

C.2.4 Building the Recovery Partition

Step 1: Put the recover CD in the optical drive.

Step 2: Start the system.

Step 3: **Boot the system from the recovery CD**. When prompted, press any key to boot from the recovery CD. It will take a while to launch the recovery tool. Please be patient!

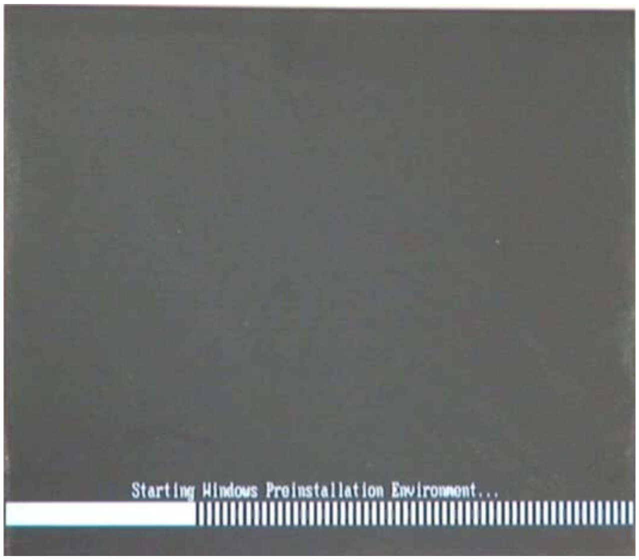


Figure C-6: Launching the Recovery Tool

Step 4: When the recovery tool setup menu appears, press <**2**> then <Enter>.

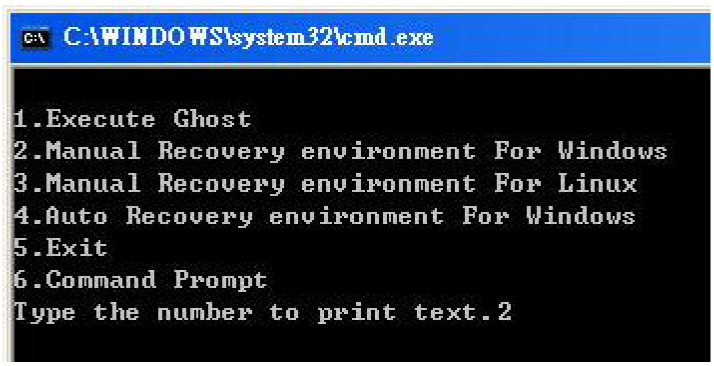


Figure C-7: Manual Recovery Environment for Windows

Step 5: The Symantec Ghost window appears and starts configuring the system to build a recovery partition. In this process the partition created for recovery files in **Section C.2.2** is hidden and the recovery tool is saved in this partition.

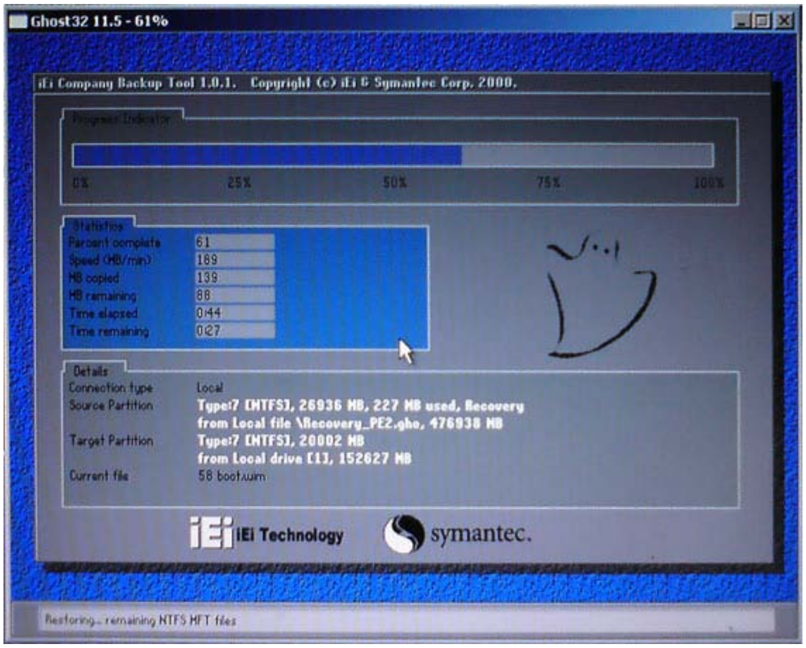


Figure C-8: Building the Recovery Partition

Step 6: After completing the system configuration, press any key in the following window to reboot the system.

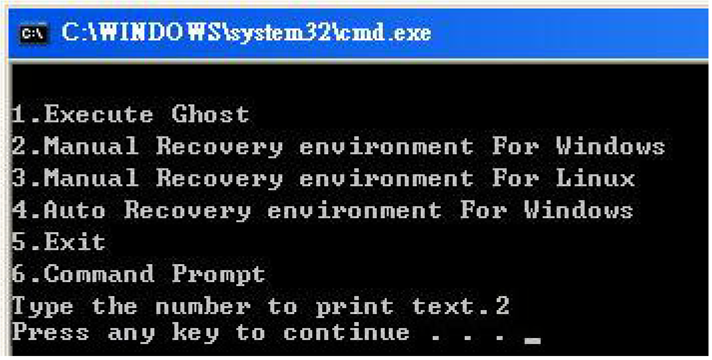


Figure C-9: Press Any Key to Continue

Step 7: Eject the recovery CD.

C.2.5 Create Factory Default Image

NOTE:

Before creating the factory default image, please configure the system to a factory default environment, including driver and application installations.

To create a factory default image, please follow the steps below.

Step 1: Turn on the system. When the following screen displays (**Figure C-10**), press the <**F3**> key to access the recovery tool. The message will display for 10 seconds, please press F3 before the system boots into the operating system.



Figure C-10: Press F3 to Boot into Recovery Mode

Step 2: The recovery tool menu appears. Type <**4**> and press <**Enter**>. (**Figure C-11**)

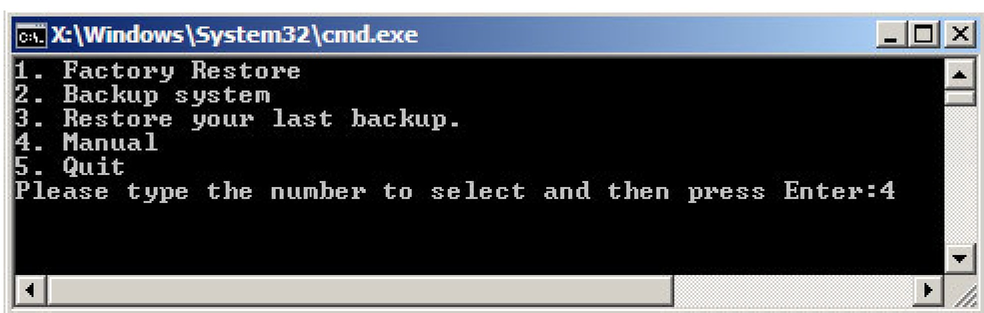


Figure C-11: Recovery Tool Menu

Step 3: The About Symantec Ghost window appears. Click **OK** button to continue.

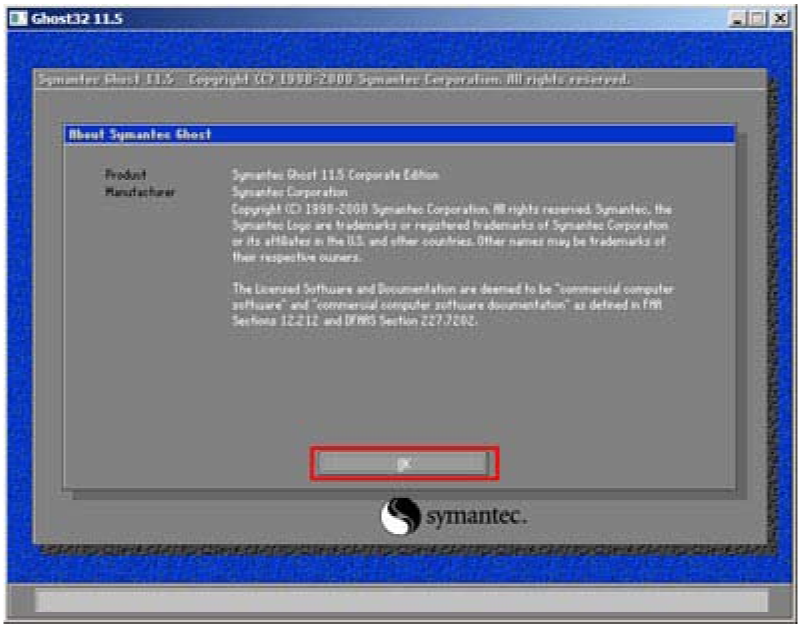


Figure C-12: About Symantec Ghost Window

Step 4: Use mouse to navigate to the option shown below (**Figure C-13**).

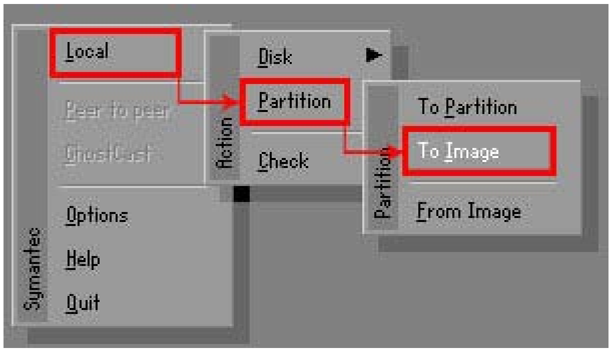


Figure C-13: Symantec Ghost Path

Step 5: Select the local source drive (Drive 1) as shown in **Figure C-14**. Then click OK.

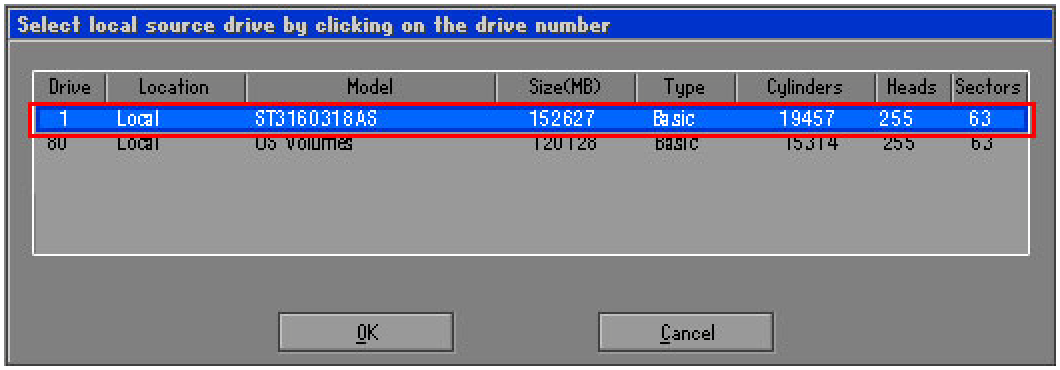


Figure C-14: Select a Local Source Drive

Step 6: Select a source partition (Part 1) from basic drive as shown in **Figure C-15**. Then click OK.

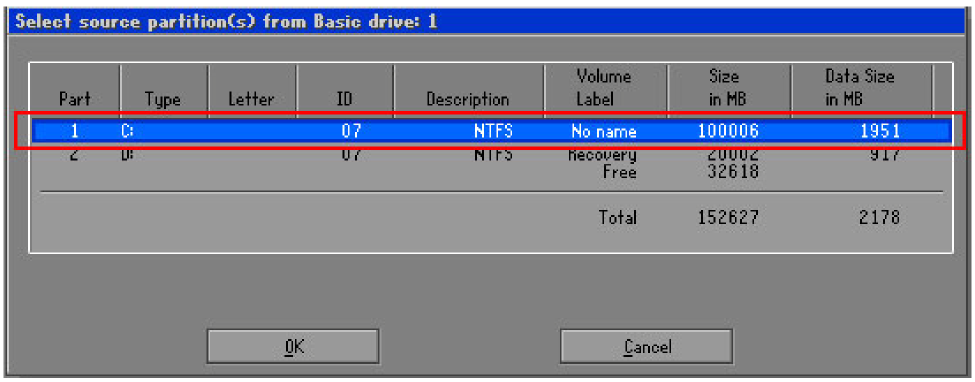


Figure C-15: Select a Source Partition from Basic Drive

Step 7: Select **1.2: [Recovery] NTFS drive** and enter a file name called **iei** (**Figure C-16**). Click **Save**. The factory default image will then be saved in the selected recovery drive and named IEI.GHO.

WARNING:

The file name of the factory default image must be **iei.GHO**.

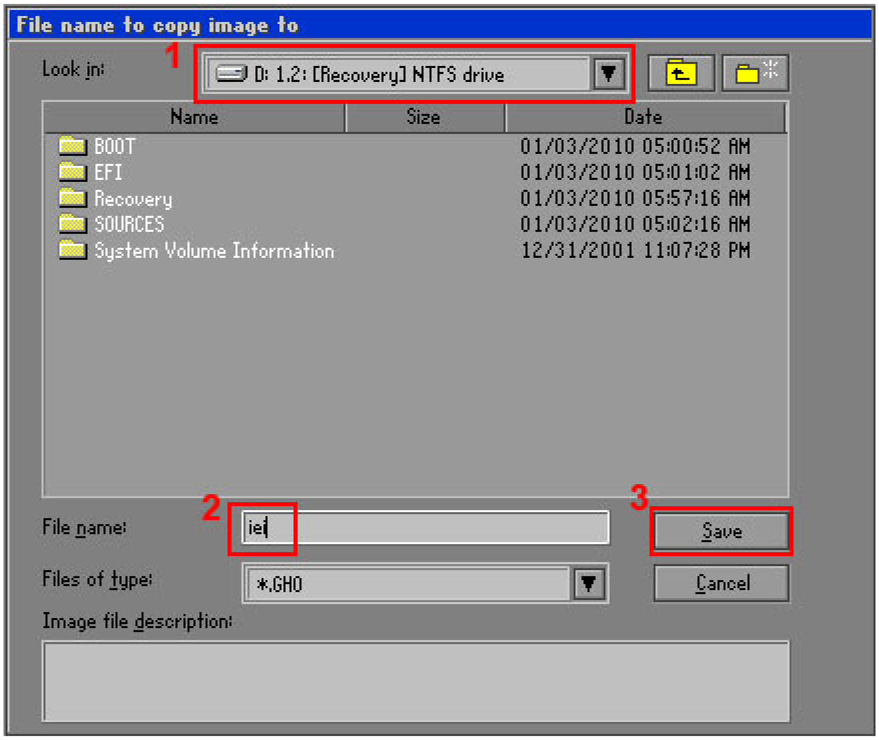


Figure C-16: File Name to Copy Image to

Step 8: When the Compress Image screen in **Figure C-17** prompts, click **High** to make the image file smaller.

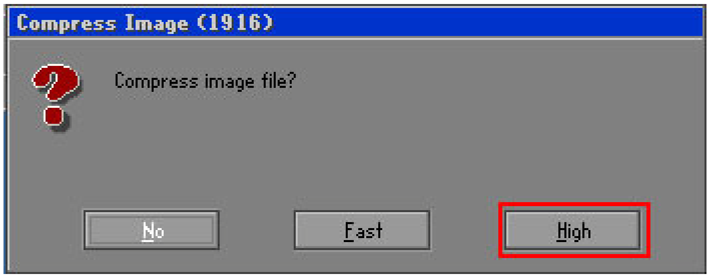


Figure C-17: Compress Image

Step 9: The Proceed with partition image creation window appears, click **Yes** to continue.

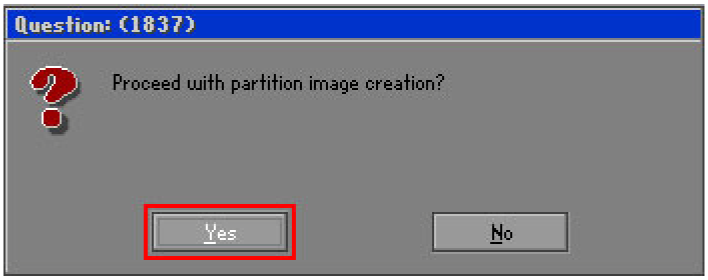


Figure C-18: Image Creation Confirmation

Step 10: The Symantec Ghost starts to create the factory default image (**Figure C-19**).

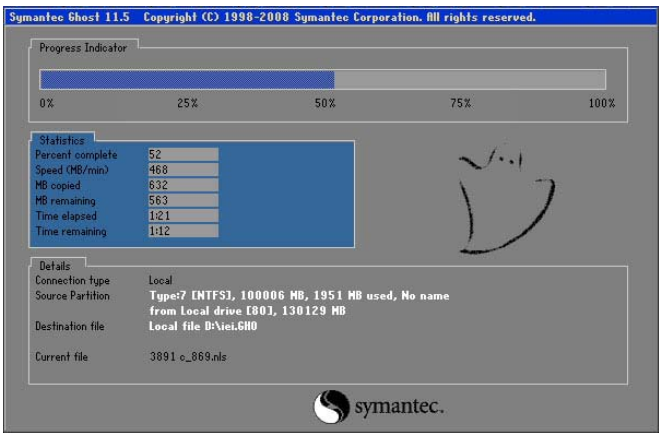


Figure C-19: Image Creation Complete

Step 11: When the image creation completes, a screen prompts as shown in **Figure C-20**. Click **Continue** and close the Ghost window to exit the program.

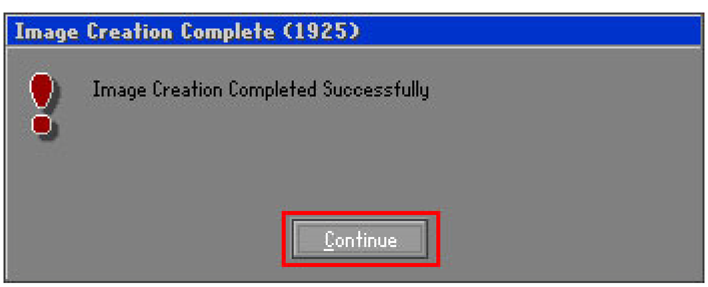


Figure C-20: Image Creation Complete

Step 12: The recovery tool main menu window is shown as below. Press any key to reboot the system.

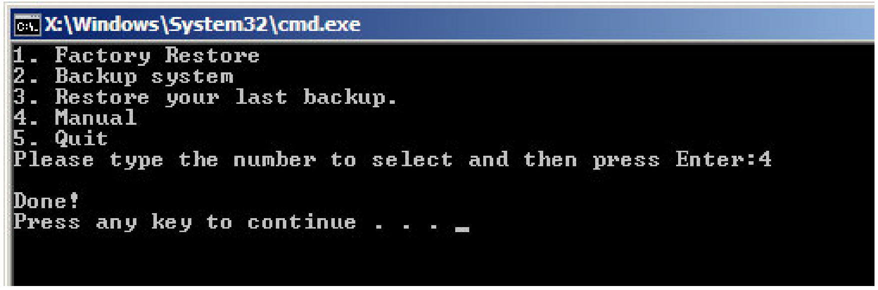


Figure C-21: Press Any Key to Continue

C.3 Auto Recovery Setup Procedure

The auto recovery function allows a system to automatically restore from the factory default image after encountering a Blue Screen of Death (BSoD) or a hang for around 10 minutes. To use the auto recovery function, follow the steps described in the following sections.

CAUTION:

The setup procedure may include a step to create a factory default image. It is suggested to configure the system to a factory default environment before the configuration, including driver and application installations.

Step 1: Follow the steps described in **Section C.2.1 ~ Section C.2.3** to setup BIOS, create partitions and install operating system.

Step 2: Install the auto recovery utility into the system by double clicking the **Utility/AUTORECOVERY-SETUP.exe** in the One Key Recovery CD. This utility MUST be installed in the system, otherwise, the system will automatically restore from the factory default image every ten (10) minutes.



Figure C-22: Auto Recovery Utility

Step 3: Reboot the system from the recovery CD. When prompted, press any key to boot from the recovery CD. It will take a while to launch the recovery tool. Please be patient!

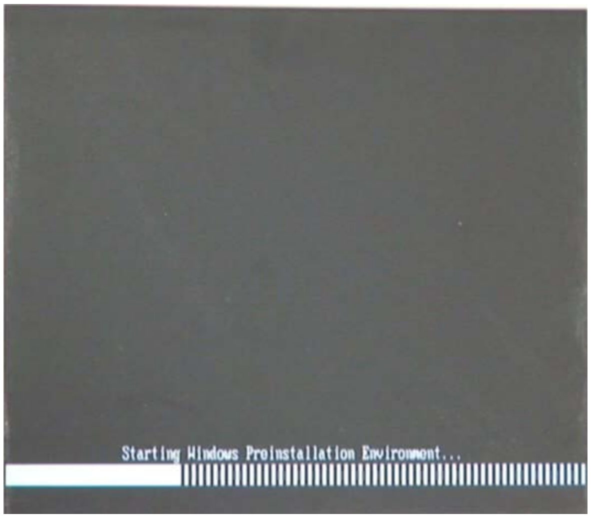


Figure C-23: Launching the Recovery Tool

Step 4: When the recovery tool setup menu appears, press <**4**> then <Enter>.

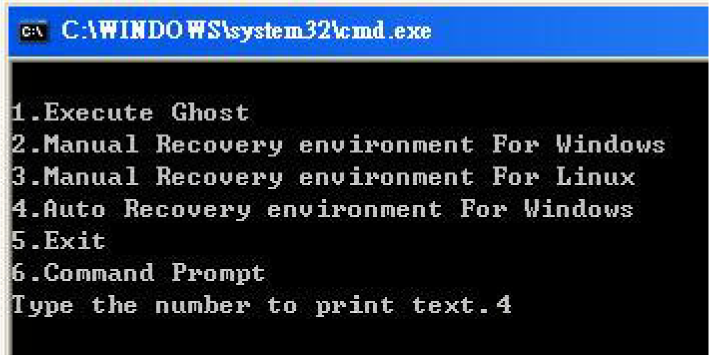


Figure C-24: Auto Recovery Environment for Windows

Step 5: The Symantec Ghost window appears and starts configuring the system to build an auto recovery partition. In this process the partition created for recovery files in **Section C.2.2** is hidden and the auto recovery tool is saved in this partition.

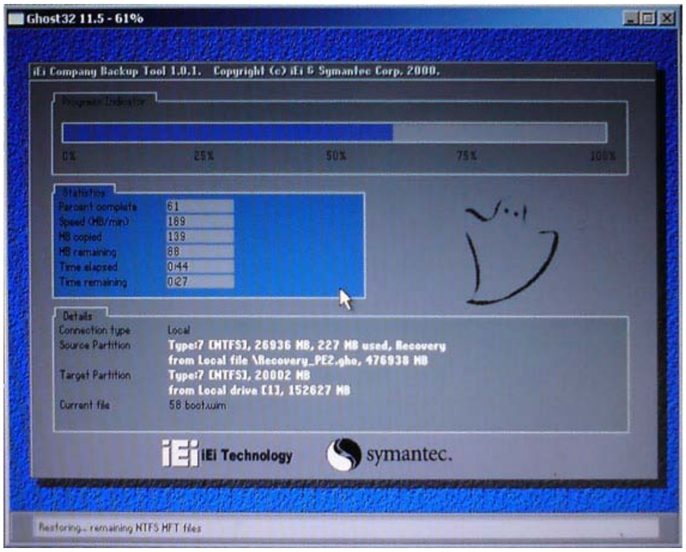


Figure C-25: Building the Auto Recovery Partition

Step 6: After completing the system configuration, the following message prompts to confirm whether to create a factory default image. Type **Y** to have the system create a factory default image automatically. Type **N** within 6 seconds to skip this process (The default option is YES). It is suggested to choose YES for this option.



Figure C-26: Factory Default Image Confirmation

Step 7: The Symantec Ghost starts to create the factory default image (**Figure C-27**).

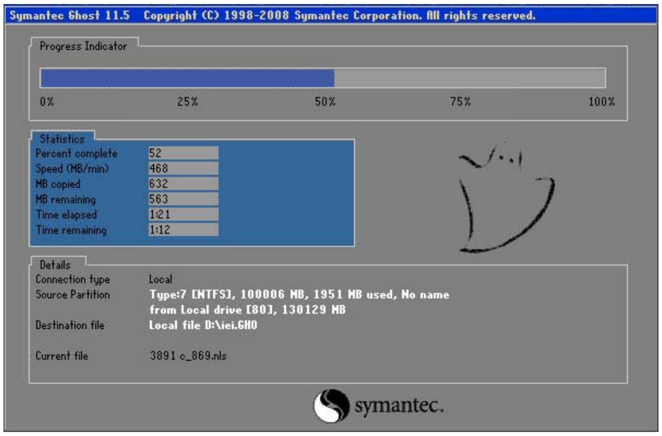


Figure C-27: Image Creation Complete

Step 8: After completing the system configuration, press any key in the following window to restart the system.

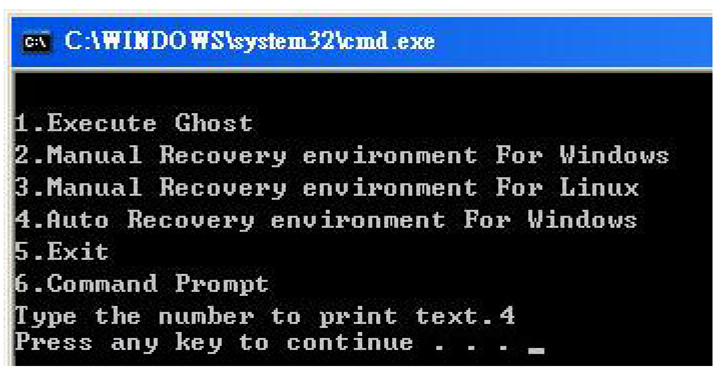


Figure C-28: Press any key to continue

Step 9: Eject the One Key Recovery CD and restart the system.

Step 10: Press the <**DELETE**> key as soon as the system is turned on to enter the BIOS.

Step 11: Enable the Auto Recovery Function option (**Advanced → iEi Feature → Auto Recovery Function**).

```
       Aptio Setup Utility – Copyright (C) 2011 American Megatrends, Inc.
            Advanced

iEi Feature                                 Auto Recovery Function
                                            Reboot and recover
Auto Recovery Function      [Disabled]      system automatically
                                            within 10 min, when OS
                                            crashes. Please install
                                            Auto Recovery API
                                            service before enabling
                                            this function


                                            ---------------------
                                            ←→: Select Screen
                                            ↑ ↓: Select Item
                                            EnterSelect
                                            +/-:  Change Opt.
                                            F1:  General Help
                                            F2:  Previous Values
                                            F3:  Optimized Defaults
                                            F4:  Save & Exit
                                            ESC: Exit
        Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

BIOS Menu 22: iEi Feature

Step 12: Save changes and restart the system. If the system encounters a Blue Screen of Death (BSoD) or a hang for around 10 minutes, it will automatically restore from the factory default image.

CAUTION:

The auto recovery function can only apply on a Microsoft Windows system running the following OS versions:

- Windows XP
- Windows Vista
- Windows 7

C.4 Setup Procedure for Linux

The initial setup procedure for Linux system is mostly the same with the procedure for Microsoft Windows. Please follow the steps below to setup recovery tool for Linux OS.

Step 1: **Hardware and BIOS setup**. Refer to **Section C.2.1**.

Step 2: **Install Linux operating system**. Make sure to install GRUB (v0.97 or earlier) MBR type and Ext3 partition type. Leave enough space on the hard drive to create the recover partition later.

NOTE:

If the Linux OS is not installed with GRUB (v0.97 or earlier) and Ext3, the Symantec Ghost may not function properly.

While installing Linux OS, please create two partitions:

- Partition 1: **/**
- Partition 2: **SWAP**

NOTE:

Please reserve enough space for partition 3 for saving recovery images.

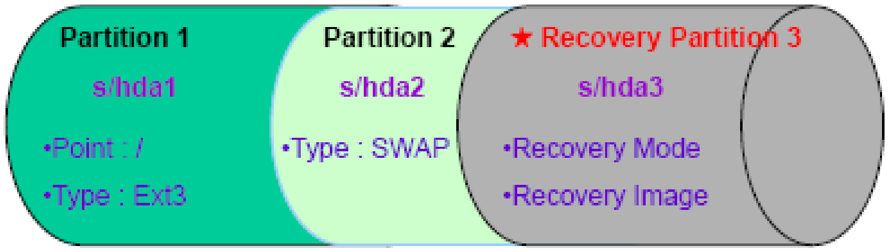


Figure C-29: Partitions for Linux

Step 3: **Create a recovery partition**. Insert the recovery CD into the optical disk drive. Follow **Step 1** ~ **Step 3** described in **Section C.2.2**. Then type the following commands (marked in red) to create a partition for recovery images.

system32>diskpart

DISKPART>list vol

DISKPART>sel disk 0

DISKPART>create part pri size= ___

DISKPART>assign letter=N

DISKPART>exit

system32>format N: /fs:ntfs /q /v:Recovery /y

system32>exit

Step 4: **Build the recovery partition**. Press any key to boot from the recovery CD. It will take a while to launch the recovery tool. Please be patient. When the recovery tool setup menu appears, type <**3**> and press <Enter> (**Figure C-30**). The Symantec Ghost window appears and starts configuring the system to build a recovery partition. After completing the system configuration, press any key to reboot the system. Eject the recovery CD.

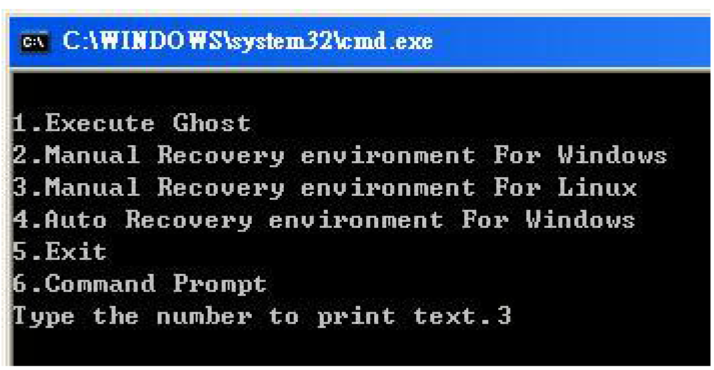


Figure C-30: Manual Recovery Environment for Linux

Step 5: **Access the recovery tool main menu by modifying the "menu.lst"**. To first access the recovery tool main menu, the menu.lst must be modified. In Linux, enter Administrator (root). When prompt appears, type:

cd /boot/grub

vi menu.lst

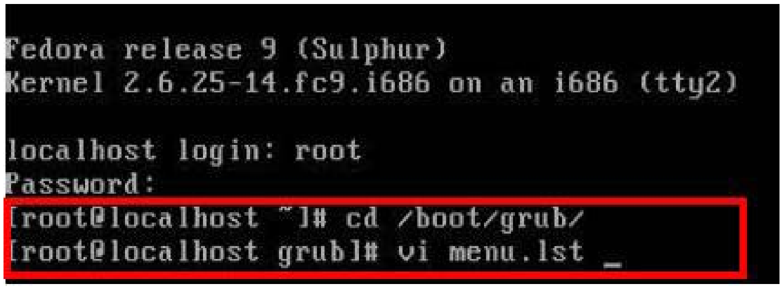
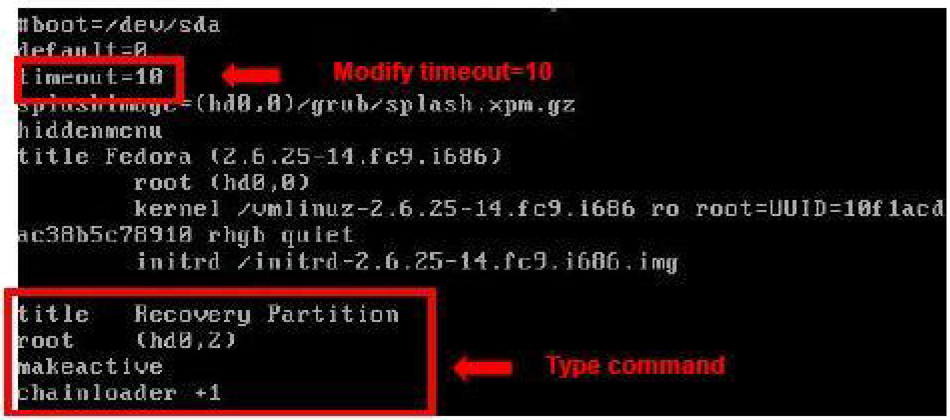


Figure C-31: Access menu.lst in Linux (Text Mode)

Step 6: Modify the menu.lst as shown below.



- **Type command:**

  title Recovery Partition

  root (hd0,2)

  makeactive

  chainloader +1

Step 7: The recovery tool menu appears. (**Figure C-32**)

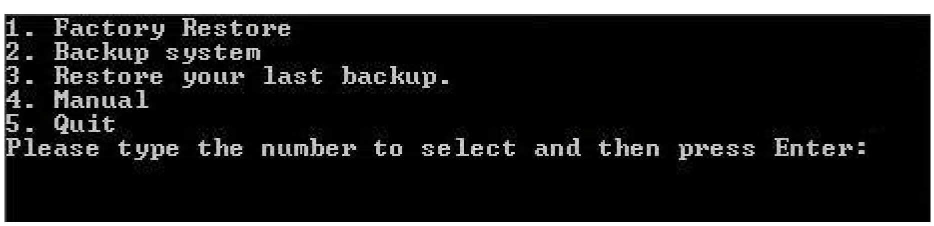


Figure C-32: Recovery Tool Menu

Step 8: **Create a factory default image**. Follow **Step 2** ~ **Step 12** described in **Section C.2.5** to create a factory default image.

C.5 Recovery Tool Functions

After completing the initial setup procedures as described above, users can access the recovery tool by pressing <**F3**> while booting up the system. However, if the setup procedure in Section C.3 has been completed and the auto recovery function is enabled, the system will automatically restore from the factory default image without pressing the F3 key. The recovery tool main menu is shown below.



Figure C-33: Recovery Tool Main Menu

The recovery tool has several functions including:

1. **Factory Restore**: Restore the factory default image (iei.GHO) created in Section C.2.5.
2. **Backup system**: Create a system backup image (iei_user.GHO) which will be saved in the hidden partition.
3. **Restore your last backup**: Restore the last system backup image
4. **Manual**: Enter the Symantec Ghost window to configure manually.
5. **Quit**: Exit the recovery tool and restart the system.

WARNING:

Please do not turn off the system power during the process of system recovery or backup.

WARNING:

All data in the system will be deleted during the system recovery. Please backup the system files before restoring the system (either Factory Restore or Restore Backup).

C.5.1 Factory Restore

To restore the factory default image, please follow the steps below.

Step 1: Type <**1**> and press <**Enter**> in the main menu.

Step 2: The Symantec Ghost window appears and starts to restore the factory default. A factory default image called **iei.GHO** is created in the hidden Recovery partition.

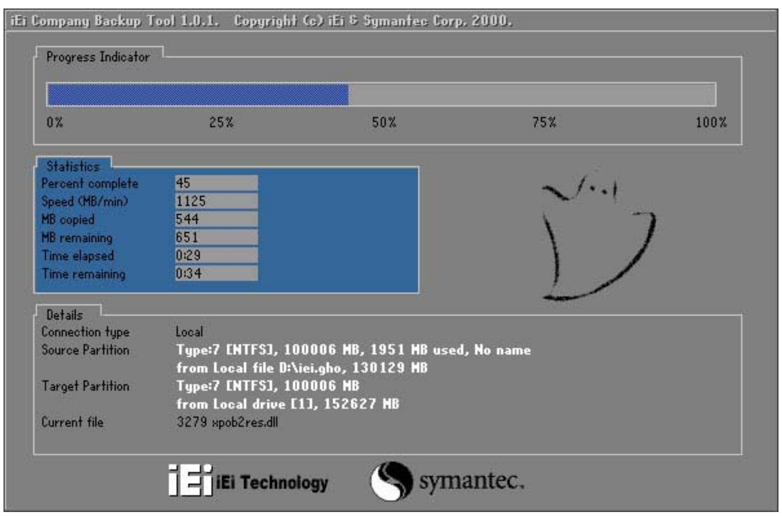


Figure C-34: Restore Factory Default

Step 3: The screen shown in **Figure C-35** appears when completed. Press any key to reboot the system.

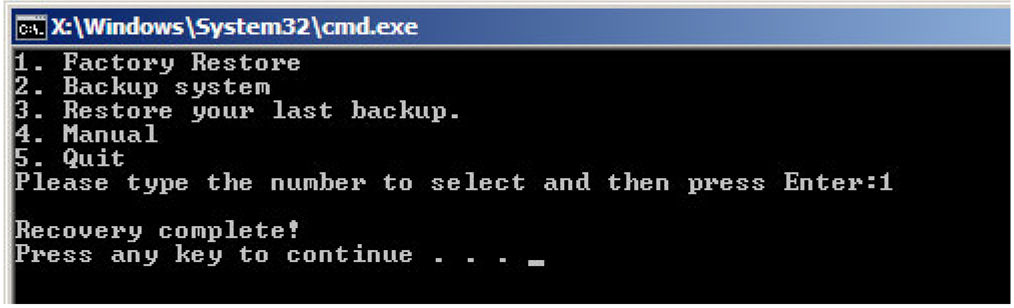


Figure C-35: Recovery Complete Window

C.5.2 Backup System

To backup the system, please follow the steps below.

Step 1: Type <**2**> and press <**Enter**> in the main menu.

Step 2: The Symantec Ghost window appears and starts to backup the system. A backup image called **iei_user.GHO** is created in the hidden Recovery partition.

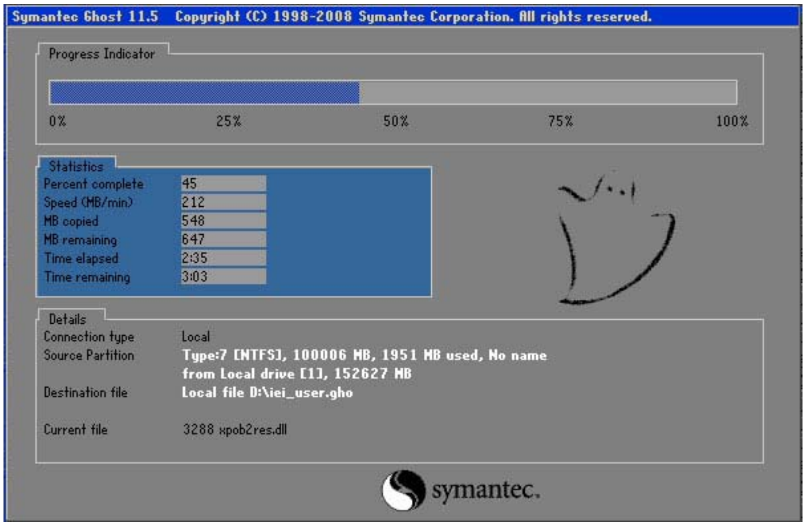


Figure C-36: Backup System

Step 3: The screen shown in **Figure C-37** appears when system backup is complete. Press any key to reboot the system.

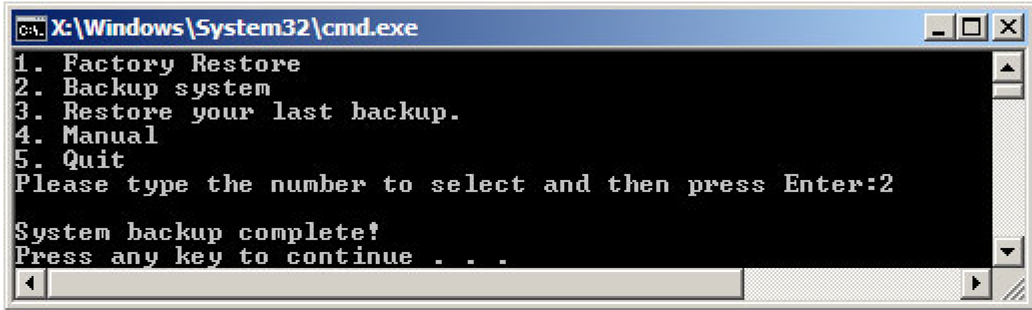


Figure C-37: System Backup Complete Window

C.5.3 Restore Your Last Backup

To restore the last system backup, please follow the steps below.

Step 1: Type <**3**> and press <**Enter**> in the main menu.

Step 2: The Symantec Ghost window appears and starts to restore the last backup image (iei_user.GHO).

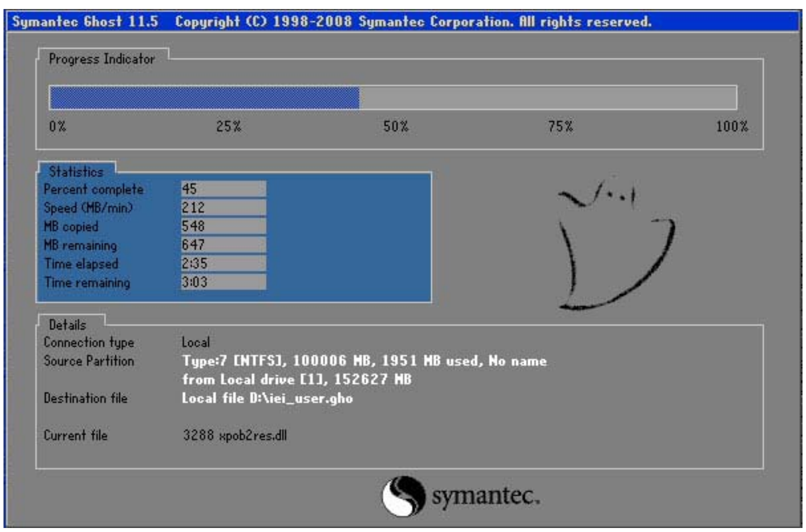


Figure C-38: Restore Backup

Step 3: The screen shown in **Figure C-39** appears when backup recovery is complete. Press any key to reboot the system.

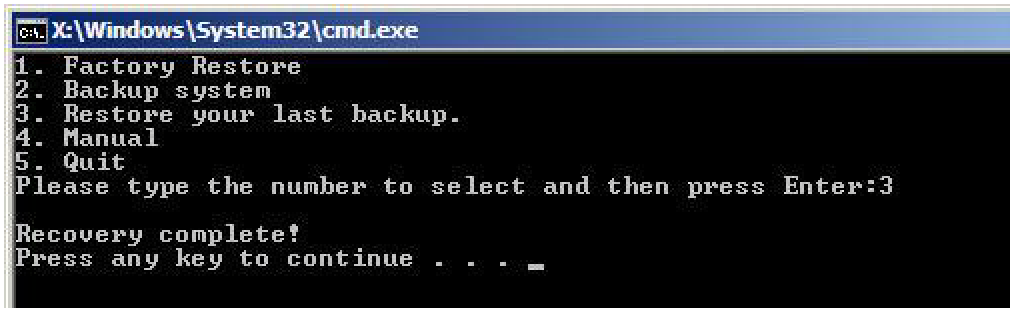


Figure C-39: Restore System Backup Complete Window

C.5.4 Manual

To restore the last system backup, please follow the steps below.

Step 1: Type <**4**> and press <**Enter**> in the main menu.

Step 2: The Symantec Ghost window appears. Use the Ghost program to backup or recover the system manually.

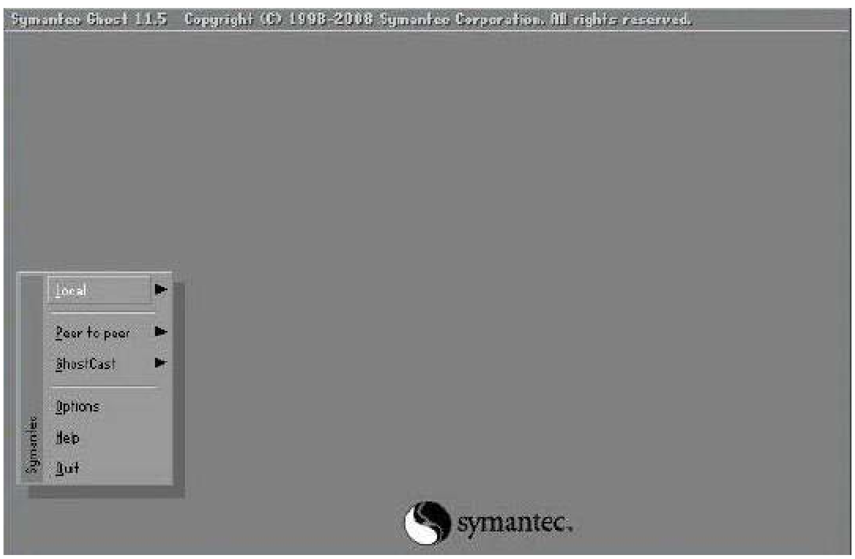
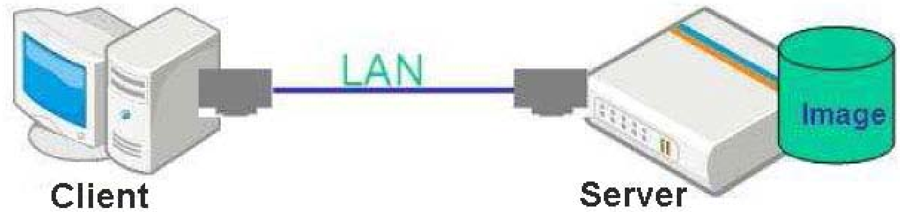


Figure C-40: Symantec Ghost Window

Step 3: When backup or recovery is completed, press any key to reboot the system.

C.6 Restore Systems from a Linux Server through LAN

The One Key Recovery allows a client system to automatically restore to a factory default image saved in a Linux system (the server) through LAN connectivity after encountering a Blue Screen of Death (BSoD) or a hang for around 10 minutes. To be able to use this function, the client system and the Linux system MUST reside in the same domain.



NOTE:

The supported client OS includes:

- Windows 2000
- Windows XP
- Windows Vista
- Windows 7
- Windows CE
- Windows XP Embedded

Prior to restoring client systems from a Linux server, a few setup procedures are required.

Step 1: Configure DHCP server settings

Step 2: Configure TFTP settings

Step 3: Configure One Key Recovery server settings

Step 4: Start DHCP, TFTP and HTTP

Step 5: Create a shared directory

Step 6: Setup a client system for auto recovery

The detailed descriptions are described in the following sections. In this document, two types of Linux OS are used as examples to explain the configuration process – CentOS 5.5 (Kernel 2.6.18) and Debian 5.0.7 (Kernel 2.6.26).

C.6.1 Configure DHCP Server Settings

Step 1: Install the DHCP

#yum install dhcp (CentOS, commands marked in red)

#apt-get install dhcp3-server (Debian, commands marked in blue)

Step 2: Confirm the operating system default settings: dhcpd.conf.

CentOS

Use the following command to show the DHCP server sample location:

#vi /etc/dhcpd.conf

The DHCP server sample location is shown as below:

```
#
# DHCP Server Configuration file.
#   see /usr/share/doc/dhcp*/dhcpd.conf.sample
#
```

Use the following command to copy the DHCP server sample to etc/dhcpd.conf:

#cp /usr/share/doc/dhcp-3.0.5/dhcpd.conf.sample /etc/dhcpd.conf

#vi /etc/dhcpd.conf

```
ddns-update-style interim;
ignore client-updates;

subnet 192.168.0.0 netmask 255.255.255.0 {

# --- default gateway
        option routers                  192.168.0.2;
        option subnet-mask              255.255.255.0;

        option nis-domain               "domain.org";
        option domain-name              "domain.org";
        option domain-name-servers      192.168.0.1;
        next-server 192.168.0.6;
        filename "pxelinux.0";
        option time-offset              -18000; # Eastern Standard Time
#       option ntp-servers              192.168.1.1;
```

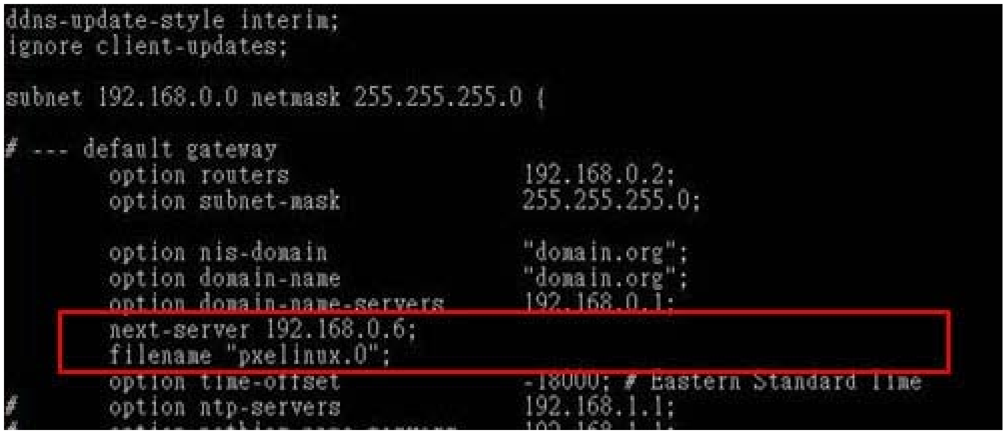
Debian

#vi /etc/dhcpd.conf

Edit "/etc/dhcpd.conf" for your environment. For example, add

next-server PXE server IP address;

filename "pxelinux.0";



```
ddns-update-style interim;
ignore client-updates;

subnet 192.168.0.0 netmask 255.255.255.0 {

# --- default gateway
        option routers                  192.168.0.2;
        option subnet-mask              255.255.255.0;

        option nis-domain               "domain.org";
        option domain-name              "domain.org";
        option domain-name-servers      192.168.0.1;
        next-server 192.168.0.6;
        filename "pxelinux.0";
        option time-offset              -18000; # Eastern Standard Time
#       option ntp-servers              192.168.1.1;
```

C.6.2 Configure TFTP Settings

Step 1: Install the tftp, httpd and syslinux.

#yum install tftp-server httpd syslinux (CentOS)

#apt-get install tftpd-hpa xinetd syslinux (Debian)

Step 2: Enable the TFTP server by editing the "/etc/xinetd.d/tftp" file and make it use the remap file. The "-vvv" is optional but it could definitely help on getting more information while running the remap file. For example:

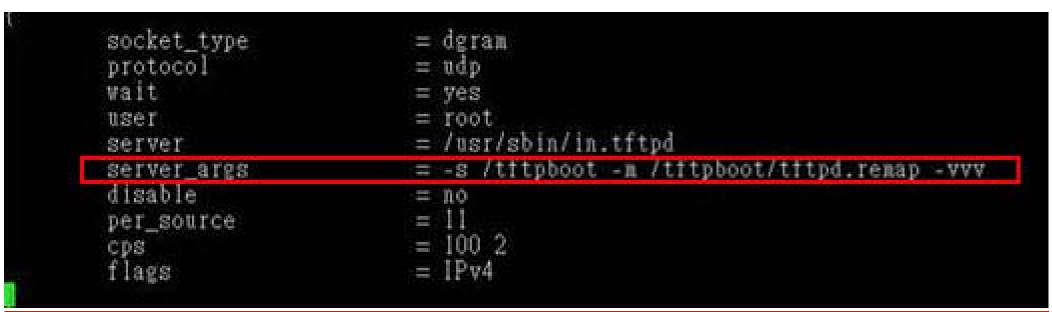
CentOS

#vi /etc/xinetd.d/tftp

Modify:

disable = no

server_args = -s /tftpboot –m /tftpboot/tftpd.remap -vvv



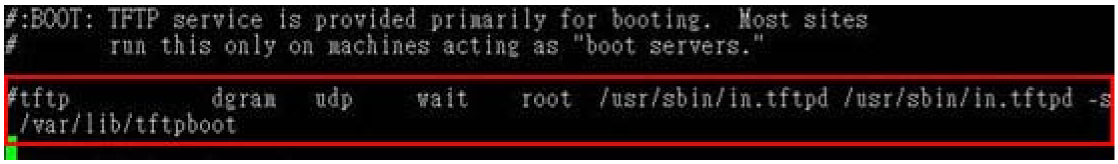
```
{
        socket_type             = dgram
        protocol                = udp
        wait                    = yes
        user                    = root
        server                  = /usr/sbin/in.tftpd
        server_args             = -s /tftpboot -m /tftpboot/tftpd.remap -vvv
        disable                 = no
        per_source              = 11
        cps                     = 100 2
        flags                   = IPv4
```

Debian

Replace the TFTP settings from “inetd” to “xinetd” and annotate the “inetd” by adding “#”.

#vi /etc/inetd.conf

Modify: #tftp dgram udp wait root /usr/sbin....... (as shown below)



#vi /etc/xinetd.d/tftp



C.6.3 Configure One Key Recovery Server Settings

Step 1: Copy the **Utility/RECOVERYR10.TAR.BZ2** package from the One Key Recovery CD to the system (server side).



Step 2: Extract the recovery package to /.

#cp RecoveryR10.tar.bz2 /

#cd /

#tar –xvjf RecoveryR10.tar.bz2

Step 3: Copy “pxelinux.0” from “syslinux” and install to “/tftboot”.

#cp /usr/lib/syslinux/pxelinux.0 /tftpboot/

C.6.4 Start the DHCP, TFTP and HTTP

Start the DHCP, TFTP and HTTP. For example:

CentOS

#service xinetd restart

#service httpd restart

#service dhcpd restart

Debian

#/etc/init.d/xinetd reload

#/etc/init.d/xinetd restart

#/etc/init.d/dhcp3-server restart

C.6.5 Create Shared Directory

Step 1: Install the samba.

#yum install samba

Step 2: Create a shared directory for the factory default image.

#mkdir /share

#cd /share

#mkdir /image

#cp iei.gho /image

WARNING:

The file name of the factory default image must be **iei.gho**.

Step 3: Confirm the operating system default settings: smb.conf.

#vi /etc/samba/smb.conf

Modify:

[image]

comment = One Key Recovery

path = /share/image

browseable = yes

writable = yes

public = yes

create mask = 0644

directory mask = 0755

Step 4: Edit "/etc/samba/smb.conf" for your environment. For example:

```
# "security = user" is always a good idea. This will require a Unix account
# in this server for every user accessing the server. See
# /usr/share/doc/samba-doc/htmldocs/Samba3-HOWTO/ServerType.html
# in the samba-doc package for details.
  security = share
```

```
[image]
   comment = One Key Recovery
   path = /share/image
   browseable = yes
   writable = yes
   public = yes
   create mask = 0644
   directory mask = 0755
```

Step 5: Modify the hostname

#vi /etc/hostname

Modify: RecoveryServer

```
RecoveryServer
~
```

C.6.6 Setup a Client System for Auto Recovery

Step 1: Configure the following BIOS options of the client system.

Advanced → iEi Feature → Auto Recovery Function → **Enabled**

Advanced → iEi Feature → Recover from PXE → **Enabled**

Boot → Launch PXE OpROM → **Enabled**

Step 2: Continue to configure the **Boot Option Priorities** BIOS option of the client system:

Boot Option #1 → remain the default setting to boot from the original OS.

Boot Option #2 → select the boot from LAN option.

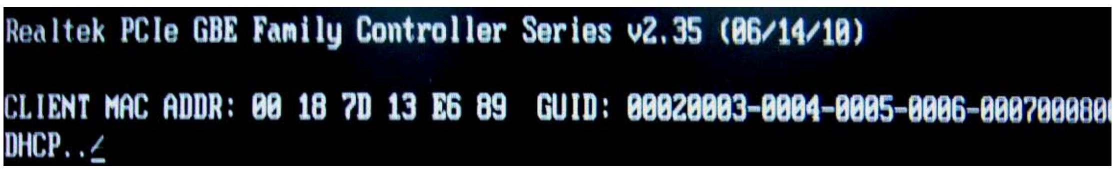
Step 3: Save changes and exit BIOS menu.

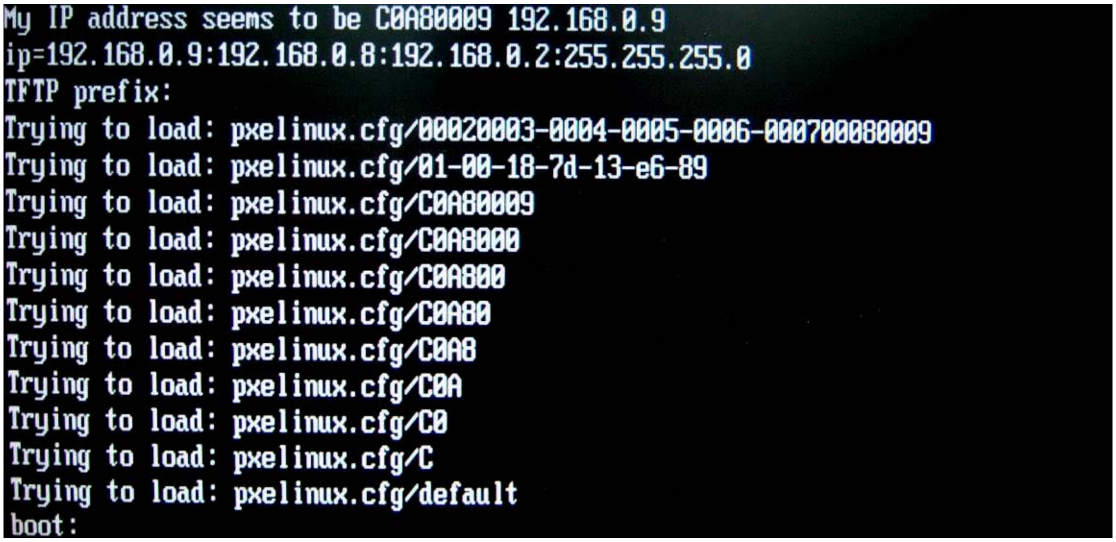
Exit → **Save Changes and Exit**

Step 4: Install the auto recovery utility into the system by double clicking the **Utility/AUTORECOVERY-SETUP.exe** in the One Key Recovery CD. This utility MUST be installed in the system, otherwise, the system will automatically restore from the factory default image every ten (10) minutes.

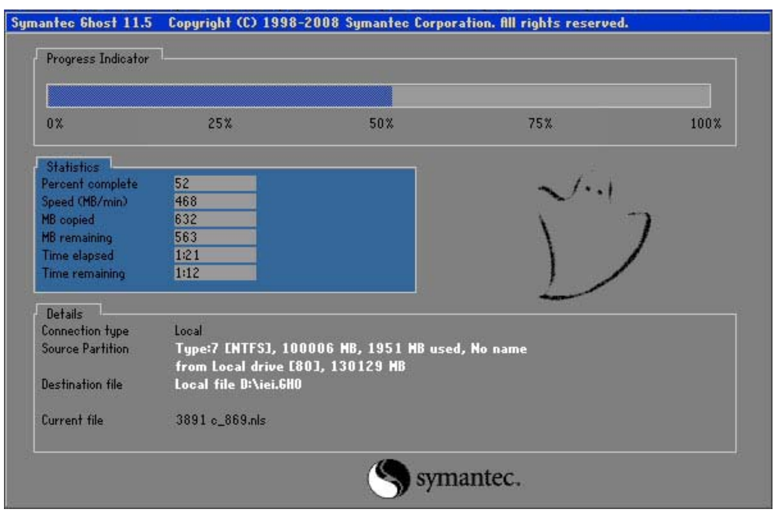


Step 5: Restart the client system from LAN. If the system encounters a Blue Screen of Death (BSoD) or a hang for around 10 minutes, it will automatically restore from the factory default image. The following screens will show when the system starts auto recovering.









NOTE:

A firewall or a SELinux is not in use in the whole setup process. If there is a firewall or a SELinux protecting the system, modify the configuration information to accommodate them.

C.7 Other Information

C.7.1 Using AHCI Mode or ALi M5283 / VIA VT6421A Controller

When the system uses AHCI mode or some specific SATA controllers such as ALi M5283 or VIA VT6421A, the SATA RAID/AHCI driver must be installed before using one key recovery. Please follow the steps below to install the SATA RAID/AHCI driver.

Step 1: Copy the SATA RAID/AHCI driver to a floppy disk and insert the floppy disk into a USB floppy disk drive. The SATA RAID/AHCI driver must be especially designed for the on-board SATA controller.

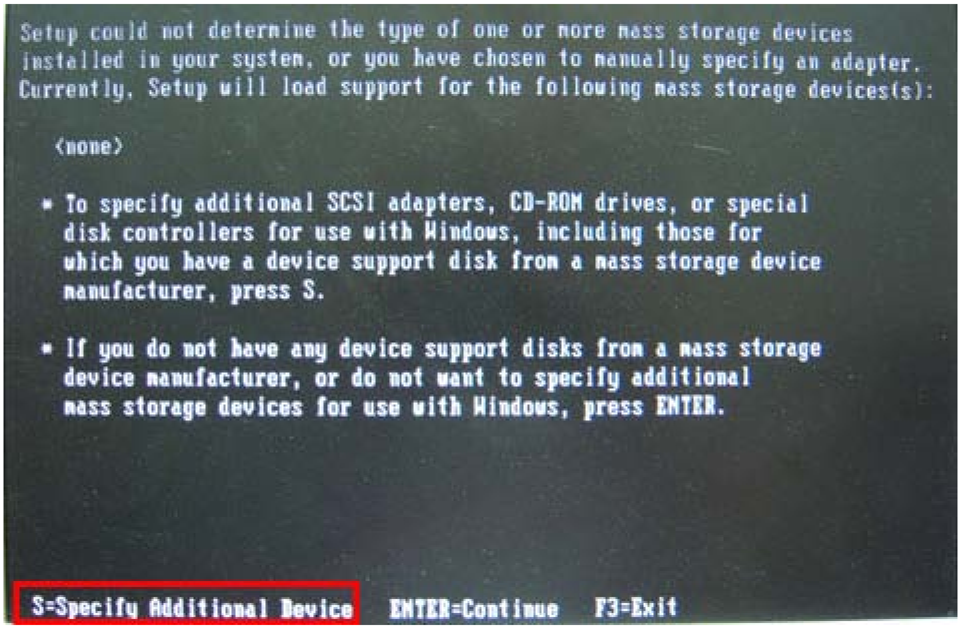
Step 2: Connect the USB floppy disk drive to the system.

Step 3: Insert the One Key Recovery CD into the system and boot the system from the CD.

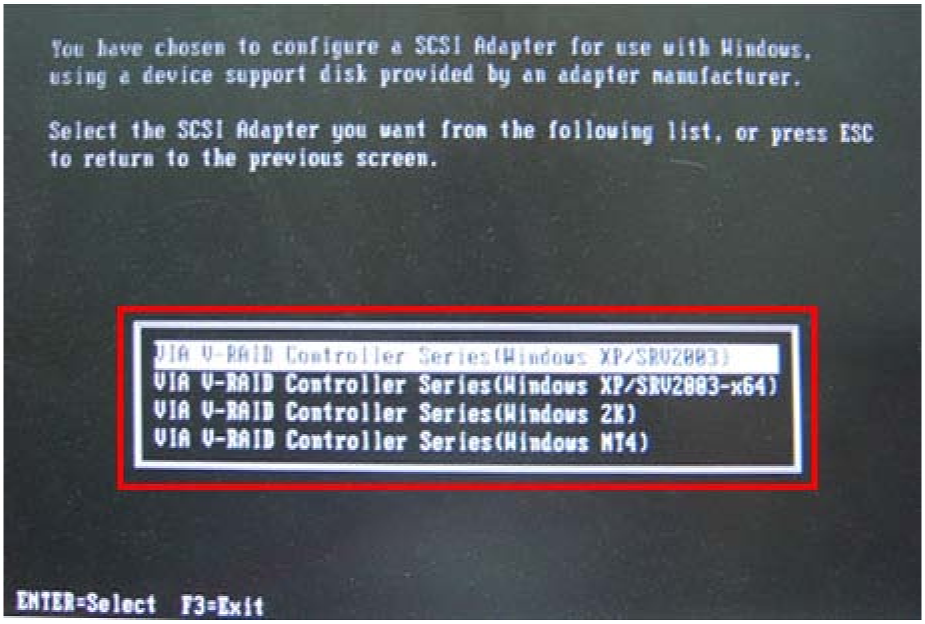
Step 4: When launching the recovery tool, press <**F6**>.



Step 5: When the following window appears, press <**S**> to select “Specify Additional Device”.



Step 6: In the following window, select a SATA controller mode used in the system. Then press <**Enter**>. The user can now start using the SATA HDD.



Step 7: After pressing <Enter>, the system will get into the recovery tool setup menu. Continue to follow the setup procedure from **Step 4** in **Section C.2.2 Create Partitions** to finish the whole setup process.

C.7.2 System Memory Requirement

To be able to access the recovery tool by pressing <**F3**> while booting up the system, please make sure to have enough system memory. The minimum memory requirement is listed below.

- **Using Award BIOS**: 128 MB system memory
- **Using AMI BIOS**: 512 MB system memory.

Appendix

D

Watchdog Timer

NOTE:

The following discussion applies to DOS environment. IEI support is contacted or the IEI website visited for specific drivers for more sophisticated operating systems, e.g., Windows and Linux.

The Watchdog Timer is provided to ensure that standalone systems can always recover from catastrophic conditions that cause the CPU to crash. This condition may have occurred by external EMI or a software bug. When the CPU stops working correctly, Watchdog Timer either performs a hardware reset (cold boot) or a Non-Maskable Interrupt (NMI) to bring the system back to a known state.

A BIOS function call (INT 15H) is used to control the Watchdog Timer:

INT 15H:

AH – 6FH Sub-function:	
AL – 2:	Sets the Watchdog Timer's period.
BL:	Time-out value (Its unit-second is dependent on the item "Watchdog Timer unit select" in CMOS setup).

Table D-1: AH-6FH Sub-function

Call sub-function 2 to set the time-out period of Watchdog Timer first. If the time-out value is not zero, the Watchdog Timer starts counting down. While the timer value reaches zero, the system resets. To ensure that this reset condition does not occur, calling sub-function 2 must periodically refresh the Watchdog Timer. However, the Watchdog timer is disabled if the time-out value is set to zero.

A tolerance of at least 10% must be maintained to avoid unknown routines within the operating system (DOS), such as disk I/O that can be very time-consuming.

NOTE:

When exiting a program it is necessary to disable the Watchdog Timer, otherwise the system resets.

Example program:

```
; INITIAL TIMER PERIOD COUNTER
;
W_LOOP:

        MOV     AX, 6F02H       ;setting the time-out value
        MOV     BL, 05          ;time-out value is 5 seconds
        INT     15H
 ;
; ADD THE APPLICATION PROGRAM HERE
;
        CMP     EXIT_AP, 1      ;is the application over?
        JNE     W_LOOP          ;No, restart the application

        MOV     AX, 6F02H       ;disable Watchdog Timer
        MOV     BL, 0           ;
        INT     15H
;
; EXIT ;
```

Appendix

E

Hazardous Materials Disclosure

E.1 Hazardous Materials Disclosure Table for IPB Products Certified as RoHS Compliant Under 2002/95/EC Without Mercury

The details provided in this appendix are to ensure that the product is compliant with the Peoples Republic of China (China) RoHS standards. The table below acknowledges the presences of small quantities of certain materials in the product, and is applicable to China RoHS only.

A label will be placed on each product to indicate the estimated “Environmentally Friendly Use Period” (EFUP). This is an estimate of the number of years that these substances would “not leak out or undergo abrupt change.” This product may contain replaceable sub-assemblies/components which have a shorter EFUP such as batteries and lamps. These components will be separately marked.

Please refer to the table on the next page.

Part Name	Toxic or Hazardous Substances and Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (CR(VI))	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)
Housing	X	O	O	O	O	X
Display	X	O	O	O	O	X
Printed Circuit Board	X	O	O	O	O	X
Metal Fasteners	X	O	O	O	O	O
Cable Assembly	X	O	O	O	O	X
Fan Assembly	X	O	O	O	O	X
Power Supply Assemblies	X	O	O	O	O	X
Battery	O	O	O	O	O	O
O: This toxic or hazardous substance is contained in all of the homogeneous materials for the part is below the limit requirement in SJ/T11363-2006 X: This toxic or hazardous substance is contained in at least one of the homogeneous materials for this part is above the limit requirement in SJ/T11363-2006						

此附件旨在确保本产品符合中国 RoHS 标准。以下表格标示此产品中某有毒物质的含量符合中国 RoHS 标准规定的限量要求。

本产品上会附有"环境友好使用期限"的标签，此期限是估算这些物质"不会有泄漏或突变"的年限。本产品可能包含有较短的环境友好使用期限的可替换元件，像是电池或灯管，这些元件将会单独标示出来。

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (CR(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
壳体	X	O	O	O	O	X
显示	X	O	O	O	O	X
印刷电路板	X	O	O	O	O	X
金属螺帽	X	O	O	O	O	O
电缆组装	X	O	O	O	O	X
风扇组装	X	O	O	O	O	X
电力供应组装	X	O	O	O	O	X
电池	O	O	O	O	O	O
O: 表示该有毒有害物质在该部件所有物质材料中的含量均在 SJ/T11363-2006 标准规定的限量要求以下。 X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。						